A Course of Twelve Lectures
ON THE
STRUCTURE AND DEVELOPMENT
OF THE
VERTEBRATE SKELETON.

Recently delivered at the Royal College of Surgeons of England,

BY PROFESSOR HUXLEY, F.R.S.

LECTURE IV.

MR. PRESIDENT AND GENTLEMEN,—In my last lecture I was occupied in the endeavour to explain to you the process of the development of the human skull. I pointed out that at first that skull arose by the development of the dorsal laminæ upon each side of the notochord or chorda dorsalis, and by the downward development of the ventral laminæ. I explained in what manner the upper and lower laminæ united so as to form upper and lower chambers, in which the great centres of the nervous system and the great visceral centres are contained. I then went on to speak of the division of the neural cavity into three vesicles, which eventually become three cerebral vesicles; and I pointed out in what way the anterior part of the cranial cavity, that which lies in front of the middle vesicle, becomes bent down over the anterior end of the notochord, as if it were a sort of axis or hinge, and so gives rise to the primitive cranial flexure, which I must beg you to understand is a very different thing from that cranio-facial angle which I spoke of when discussing the structure of the skull as a whole. Then I pointed out in what way the three great organs of sensation are developed at the sides of the cranium—the olfactory organs, the eyes, and the auditory organs—commencing as involutions of the external integument, some of which, like the eye and ear, become eventually shut off from the exterior, while others, like the nose, remain constantly in communication with it. I then went on to speak of the development of the lateral arches of the skull, those parts which are called visceral arches—the first, second, third, fourth, and so on—separated by clefts. I pointed out in what manner, in front of these visceral arches, the anterior walls of the face develop from that great process in the middle region called the frontal nasal process. Then, leaving the outward form of the skull in the condition in which it is seen in the most advanced of the diagrams (Fig. 16), I spoke of the changes taking place in the interior. In the earliest condition we found that the skull, like the rest of the skeleton, consisted of nothing but notochord, with the membranous substance in which that notochord is contained—a substance composed for the most part of indifferent tissue, and afterwards becoming modified into fibrous or connective tissue. I then drew your attention to one very important circumstance—that after this homogeneous structure had obtained throughout the whole length of the great centres of the spinal skeleton, in the dorsal region, the caudal region, and the cervical region, the indifferent tissue became subdivided into a number of quadrate masses (Fig. 12, *g*), which we called the proto-vertebræ, and which gave rise not only to the bodies of the vertebræ, but to ganglia and the dorsal layers of the muscles. It was an important point for us, at least for future consideration, that this process of subdivision extends no further than the hindermost margin of the cranium, that it does not extend into the substance of the cranium at all; that therefore here is given, to begin with, an entire, fundamental difference between the cranium and the spinal column. Within this primitive skeleton of the skull there is soon developed a secondary skeleton, just as within the primitive skeleton of the spinal column there is soon developed a secondary skeleton. The secondary skeleton of the spinal column originally consists of cartilaginous rings, which are separate from one another, and which form the rudiments of the bodies and arches of the vertebræ. But here, again, there is a fundamental difference. In the skull there is no such deposition of separate cartilaginous rings, but the anterior part of the notochord becomes surrounded by cartilaginous tissue, which forms a continuous plate, and is not divided into separate masses; and in front of that point at which the notochord terminates—that is to say, immediately behind the pituitary body, immediately behind the cranial flexure—the plate becomes divided into two portions, the trabeculæ cranii, then pass on each side along the margins of the pituitary fossa, unite in front, and there give rise to the plate which is continued forward into the frontal prominence of the skull. There is as complete a difference in this respect between the cranium and the spine as there is between the modes of development of the membranous skeleton in each case. Then I spoke of the way in which the ossification of the skull takes place; and we found that in the occipital region there is a development of an osseous centre taking place round the notochord, and forming eventually the commencement of the basi-occipital bone, on each side of which are the ex-occipitals; and at the top is another centre, which forms the supra-occipital bone, or at least that part of the occipital squama which lies beneath the superior semicircular line, that part which lies above this point being developed in a totally different way. Then in the side walls of the skull you have distinct centres of ossification arising in the cartilages which represent the ali-sphenoids; distinct centres arising from those cartilages which represent the orbito-sphenoids, and two distinct centres arising in the part which represents the basi-sphenoid, and becoming coalesced; and seemingly two also in the pre-sphenoid; then a single piece developed in the median cartilage, which forms the ethmoid septum. These were all the parts developed in cartilage, having cartilaginous predecessors, if one may so say. Those bones which form the top or roof of the skull—that is, the upper half of the supra-occipital, the two parietal bones, and the two frontal bones—are developed, as I showed, in a totally different way from membrane; they never have any cartilaginous predecessors at all, but are developed in membrane which is continuous with perichondrium and periosteum. This distinction holds good largely throughout the skull, and is one of considerable importance, though I do not mean to say that it is always diagnostic as determining the nature of bones. Then we considered the mode in which the bones about the olfactory capsules were developed: the two nasal bones developed from membrane upon the upper part of the capsules; the vomer developed in the middle line below, from perichondrium. The two bones of Bertin are also said to be developed from perichondrium; but the other bones—viz., the upper, middle, and lower spongy bones—are all developed within processes of cartilage which precede their adult shape. The next point we took up was a very important one—the development of the walls of the periotic capsules. We found that, as the olfactory capsules became surrounded by cartilage, so the auditory capsules became surrounded by cartilage. In this cartilaginous sac three centres appear: one in front of the anterior semicircular canal, which we called the prootic; one above, immediately in contact with the posterior vertical semicircular canal, which we called the epiotic; and one behind, commencing immediately behind the fenestra rotunda, and forming eventually the floor of the tympanum and the lower part of what we know as the petrous bone of human anatomy, and that we called the opisthotic ossification. Not only have these ossifications definite relations of this kind to different parts of the internal ear, but they have also exceedingly definite relations to certain nerves, and these are of no less importance. The prootic ossification lies immediately behind the exit of the third division of the fifth, and is perforated by the portio dura, and very commonly

also by the portio mollis, or proper auditory nerve; at any rate, the great mass of it always lies behind the third division of the fifth: that is its landmark. The opisthotic ossification always lies immediately in front of the eighth pair, the par vagum and those nerves associated with it, and always encloses the fenestra rotunda, where that exists. Besides these ossifications which I showed in the upper part and base of the skull, there are two others, which I had not time to mention, developed in the little tongues of cartilage coming from the hinder part of the basi-sphenoidal cartilage upon each side of the carotids, where they enter the skull, and these are what become eventually the linguæ sphenoidales, which I pointed out in the complete skull.

Besides these detailed changes in the ossification of the skull, this manner of its conversion into a complete bony box, there are a number of exceedingly important and interesting more general changes of its form which take place in the course of development. Upon these I can only touch briefly at present, although they will interest us by-and-by, when we come to speak of the modifications of the mammalian skull, particularly the human skull. One of the most remarkable is the gradual diminution of what we term the cranio-facial angle. If you take a very young skull, and make a vertical section through it—say a skull at the fourth month or thereabout—you find that the basi-cranial axis and the basi-facial axis form an exceedingly open angle; but as the skull becomes older, the angles become less and less—that is to say, taking the basi-cranial line at the same inclination, the basi-facial line comes more and more downwards, until in the higher races of mankind it may be as little as a right angle. This is very considerably due to the development downwards of the face, and to that downward development not being accompanied by an equal forward development. Suppose these two lines (Fig. 25*, *d*, *e*) were at the same angle, it is obvious that as the face increased in size it must increase forwards as much as it increases downwards, and the result would be, if you were to keep in the adult the cranio-facial angle which exists in the fœtus, that you would have an excessively prognathous skull; but in all the higher races of mankind, at any rate, the face does not elongate forward in development as it does downward, and the result is that this angle becomes less and less until it reaches the adult state.

FIG. 25.*

Diagram of skull and face of human embryo of fourth month. *a*, Cranial cavity. *b*, Basis-cranii. *c*, Basis-faciei. *d*, Facial axis. *e*, Cranial axis.

There are many important considerations connected with this which I shall speak of more in detail by-and-by. In the same way, if I went into the matter now, we should find that what I termed, when speaking of the internal section of the skull, the tentorial angles become larger as age proceeds. In the fœtus the inclination of the occipital plane and of the tentorial plane upon the basi cranial axis—the angles which they form are much smaller than in the adult. At present, however, I cannot dwell upon these points, as I have much before me in explaining the very remarkable changes which are undergone by the parts of the face—that is to say, by the frontal nasal process, and by the visceral arches; and the knowledge of these is so very important in studying the relations of the human skull with that of the lower animals, that we must examine them with very great care.

I briefly explained in my last lecture how this frontal nasal process grows downwards, in a sort of tongue-shape, in the middle line between the two nasal fossæ, and throws out two processes, which eventually become united with the maxillary process (*Fig. 15, b*). As this process is developed downwards and forwards, it becomes thinner and thinner between the nasal fossæ, and in that way you have the lamina perpendicularis and the cartilaginous internasal septum developed. Connected again at the bottom there spread out two processes, partly membranous and partly cartilaginous, in which at an early period a deposit takes place to constitute the pre-maxilla; so that in man, as in other mammalian animals, at first the pre-maxilla is distinct from the maxilla, and they are only subsequently united. At first the very process in which they are developed is distinct from the lateral process, and it is in consequence of the arrest of the development of these processes, their not uniting together, that certain forms of hair-lip are produced. Then, as I stated briefly the other day, when the maxillary process and the median nasal process have united together, the result is to shut off the aperture which places the nasal sac in communication with the internal cavity of the mouth. At present there are no posterior nares; the human skull in this state is in the condition, so far as the median nares go, of a frog's skull, or a lizard's. Its conversion into the mammalian skull takes place by the development of certain processes inwards: from the maxillary process plates are thrown inwards, and they at length come to meet in the middle line, and then they unite; the result is, of course, that the median nares are now completely shut off from the cavity of the mouth, and the communication between the external nostrils and the cavity of the throat takes place through the posterior nostrils. It is in consequence of this mode of development that I ventured to say what I did, that the posterior nostrils are a secondary product—a structure peculiar to mammals and the higher reptiles, not found in the lower reptiles, and entirely arising by the throwing inwards of these processes of the palatine bone and maxilla.

To understand what changes take place in the maxillary process, we must first consider what occurs in the first visceral arch in a very early condition; and this is one of the most important steps in the whole series of developmental changes which take place in the face. In the very young human embryo the two halves of the first visceral arch become united together in the middle line: thus you have the rudiment of the lower jaw. But, as I said on a previous occasion, a development takes place from the base of the skull in connexion with the first visceral arch, and that forms what we were talking about just now as the maxillary process. Very early indeed a little rod of cartilage is developed within the centre of this first visceral arch (Fig. 26, *e*), and a little rod of cartilage is developed within the second one (*f*), and perhaps in the third (*g*). It has been stated by Reichert, to whom our knowledge of these facts is entirely due—his observations having been thoroughly verified by subsequent observers,—that these cartilaginous rods are at first in connexion with the cartilaginous basis cranii. But if that connexion obtains, it is a very transitory one: for shortly they become free from the basis cranii at their inner ends, and become connected with the auditory capsule; the auditory capsule is developed by an involution of the integument; that is thrown inwards, and you have a great sac formed which becomes surrounded by cartilage, and these two rods come into close contact, one with the anterior part of the cartilage, and the other with the posterior part of it. Whether it is the case in man or not I cannot say, but certainly in the lower vertebrata there is a time when a little cartilaginous rod extends forwards, in connexion with the upper part of this cartilaginous rod of the first visceral arch, along the maxillary process, and becomes

FIG. 26.

Diagram of cephalic portion of an early human embryo. *a*, Anterior cerebral vesicle. *b*, Middle ditto. *c*, Third ditto, passing into the narrow spinal portion of the nervous mass. *d*, Auditory sac folded inwards from the cutaneous layer. *e*, First facial (post-stomal) arch. *f*, Second ditto. *g*, Third ditto. *h*, Axis of maxillary rudiment. *i*, Palatine. *k*, Pterygoid. *l*, Incus. *m*, Malleus. *n*, Meckel's cartilage, with dentary splint. *o*, Hyoid cartilaginous rod. *q*, Rudiment of large cornu of os hyoides.

connected with the under part of the olfactory capsule, or rather with the transverse processes of cartilage constituting the rudiments of the lateral masses of the ethmoid (Fig. 26, *h*). If there is any cartilaginous rod in man at all developed in this place, it has a very short duration indeed, and very early the connexion is entirely broken through, and there are developed in connexion with this rod two bones (Fig. 26, *i*, *k*), the anterior one being the palatine, and the posterior the internal pterygoid or proper pterygoid. These then become connected with the base of the skull in the manner I have explained; but at a very early period the connexion between the pterygoid and this cartilaginous rod is entirely lost.

Next there are some very curious changes which take place in the cartilaginous skeleton of the first visceral arch itself. It becomes divided into three parts—the upper, middle, and lower. This upper part throws out a couple of processes (Fig. 26, *l*, *m*, *e*); the middle part also sends down a process in this fashion (Fig. 27, *c*), and this continues down into the substance

FIG. 27.

Diagram of first and second post-stomal arches of human embryo. *a*, Incus. *b*, Malleus. *c*, Meckel's cartilage. *d*, Dentary. *e*, Stapes. *f*, Os orbiculare. *g*, Upper hyoid cartilage; between *g* and *e* is the rudiment of the stapedius muscle. *m*, Middle hyoid cartilage. *i*, Rudiment of cornu minor of os hyoides. *k*, Basi-hyal. *l*, Tympanic annulus.

of the lower jaw. In the mean time the tympanic cavity has become developed in this region, and in connexion with that tympanic cavity you have the first rudiment of the tympanic bone taking its form as a ring; and I need not tell you what is the real nature of these parts. The cartilage exists for a considerable time; the upper division of it you see (Fig. 27, *a*); it becomes ossified very early. The upper part becomes the incus; the middle becomes the malleus, the handle (*b*) becoming connected with the drum of the ear; and this long piece (Fig. 27, *c*) passes out from what corresponds with the Glaserian fissure—which does not exist, in the proper sense, in its early state—passes out between the petrosal and the tympanic bone, and runs to the middle of the symphysis of the lower jaw. After this has taken place, the lower part—this cartilage which is now called Meckel's, on account of its discoverer—becomes coated, if I may so say, upon its outer surface by a plate of bone (Fig. 27, *d*), but this plate of bone is wholly independent of the cartilage—not developed in the substance of the cartilage, but in the soft tissue surrounding the cartilage; and this little plate of bone formed here (*d*) is the rudiment of the lower jaw. The centre of ossification (*d*) extends in two directions, and takes at last the well-known shape of the lower jaw by ossification from a continuous point; and that then this (*c*) rapidly begins to die away, becomes absorbed, and all that represents Meckel's cartilage is the processus gracilis of the malleus, which slips into that Glaserian fissure, as we all know: then the whole of the cartilage (*c*) entirely vanishes. The upper part of the ossification which constitutes the ramus of the lower jaw comes in contact with the lower part of the squamosal bone, and forms the well-known articulation.

That is what becomes of the lower part of the cartilaginous skeleton of the first visceral arch. Now let us consider what becomes of the upper part. Before doing that, we must take into account the metamorphosis of the cartilaginous skeleton of the second visceral arch. The cartilage in the second arch comes forward to meet its fellow in the middle line, as in the case of Meckel's cartilage; and it becomes divided into three parts in very much the same sort of way, and the upper part altogether disappears. (I give you now Reichert's account. The investigation is exceedingly difficult, and there have been some disputes about the matter, but certainly no one has disproved the accuracy of what he has stated, and I believe the main facts which I am about to state are correct.) The upper division is said to vanish. The second division is very small, and it changes its direction—comes into contact, on the one hand, with the long process of the incus, to which it becomes attached; and, on the other hand, fits itself into the fenestra ovalis (Fig. 27, *e*); and the communication between these two portions of the arch (*e*, *g*), at first fibrous, eventually becomes muscular; and I need not say that this is the stapedius muscle, which, as we all know, is inserted into this part of the stapes. The stapes, at first solid and somewhat round, eventually becomes that stirrup-shaped bone with which we are familiar. This division of the primitive pillar of this second arch has now become converted into muscle; the rest remains cartilaginous for a very considerable time (*g*). The tympanic bone has now become developed into the position of Fig. 27, *l*, and consequently this cartilaginous part (*g*) which now forms the styloid process occupies the position which you see it to have. This portion of it (*g* to *m*) becomes converted into the stylo-hyoid ligament, and that (Fig. 27, *m*) becomes connected with another portion developed here, it is said by Reichert, from the third visceral arch, which is the body or large cornu of the hyoid (Fig. 26, *g*). After this cartilaginous state has existed for some time, another ossification takes place. The part (Fig. 27, *c*) ossifies, and that part (Fig. 27, *g*) becomes what we know as the pyramid, which you are aware is fitted in between the tympanic bone and the great mass of the periotic capsule. Then the rest of it ossifies gradually downwards, and in advanced age in man becomes converted into that long styliform process which we know as the styloid process. You will observe that this is a most extraordinary series of metamorphoses; and unless we comprehend clearly this series of changes, this subdivision of the two cartilaginous arches, and their conversion into these parts, it will be a hopeless task to identify the different parts of the jaw in the lower vertebrata with those found in the higher.

With that I conclude what I have to say respecting the structure and development of the human skull. Of course I by no means pretend or dream of having given you anything like an exhaustive account of this very remarkable process; but what I have endeavoured to do is to enumerate the salient points which will be absolutely necessary for us in our course through the lower modifications of the vertebrate skull. And now, instead of passing on directly to the rest of the human skeleton, as one should do perhaps to be systematic, I will lay that aside, and, with these facts of the structure of the skull in man, which is somewhat complex, clearly in our minds I hope, I will take an extreme term at the other end of the vertebrate series—endeavour to describe the structure of the skull in that other term—and then attempt to point out, upon good definite grounds, what structures in the one correspond with the structures we have become acquainted with in the other. Here I may say I shall have no reference to ideal notions of the skeleton, or to any conceptions of unity of plan, or definite composition, or the like. The arguments I shall use will all be based upon more tangible matters than these—that is to say, upon the relations of bones to nerves, and to soft parts, and to one another; so that, whether one is right or wrong in one's conclusions, there will be, at any rate, a positive basis which can be proved or disproved. That is always a great advantage in any inquiry; it enables one to come to an end of the discussion in some way or other: while stopping in the region of the ideal, I do not know that you ever can terminate a discussion.

(To be concluded.)

A GELATINE BANDAGE FOR FRACTURES.—M. Hamon, of Brussels, thinks that the starch used for fracture bandages is too long drying, and proposes the following mixture, which takes only from one hour and a half to two hours to become dry and hard. Gelatine, in small pieces, seven ounces; water five ounces; alcohol about four ounces. The latter is to be added when the gelatine has been dissolved with a gentle heat. M. Hamon has also perforated the margins of the bandage, when cut after first application, with small holes, through which the apparatus may be laced like stays.

Lectures
ON
MOLECULAR PHYSIOLOGY, PATHOLOGY, AND THERAPEUTICS,
AND THEIR
APPLICATION TO THE TREATMENT OF DISEASE.

BY
JOHN HUGHES BENNETT, M.D. EDIN., F.R.S.E.,
PROFESSOR OF THE INSTITUTES OF MEDICINE,
AND SENIOR PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF EDINBURGH.

LECTURE VI.

THE BLOOD IN HEALTH AND DISEASE.

In my last lecture we saw, from a study of the process of nutrition, how the blood was derived from two sources: 1st, from the products of the digestion of food—the so-called primary digestion; 2nd, from the products of the digestion of the tissues themselves—the so-called secondary digestion. I now propose directing your attention to the properties and varied conditions of this important fluid.

Structural elements.—When we examine a drop of human blood with a magnifying power of 250 diameters linear, we observe a number of corpuscles floating in a clear fluid. These corpuscles are of three kinds: 1st, circular, bi-concave, yellow discs, of about $\frac{1}{3200}$ of an inch in diameter, which, at first isolated, soon turn edgeways and collect together in rouleaux, like a pile of coin; 2nd, globular bodies, which are colourless, finely dotted on the surface, with a distinct nucleus, and about the $\frac{1}{3200}$ of an inch in diameter; 3rd, molecules, more or less numerous. The first of these are free nuclei, and are generally

FIG. 58.

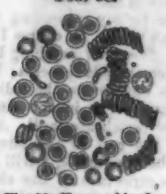

FIG. 59.

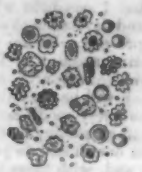

Fig. 58. Human blood corpuscles drawn from the extremity of the finger. On the left of the figure they are isolated, some flat and on edge; some have a dark and others a light centre, according to the focal point in which they are viewed. On the right of the figure several rolls have formed. Two colourless corpuscles and a few molecules are also visible.—Fig. 59. Human blood corpuscles altered from exosmose. (250 diameters.)

spoken of as the coloured corpuscles; the second are cells, and called the colourless corpuscles; and the third are fatty molecules, usually derived from the chyle. In the other vertebrate tribes the coloured corpuscles are oval in form, and are not free nuclei, but nucleated cells. The only mammiferous animals that possess oval coloured corpuscles are the class Camelidæ, although in them also they are free nuclei, and not cells. The bi-concave coloured nuclei become globular on the addition of water, and lose their colour. In acetic acid they are dissolved, although frequently a faint trace of their envelopes may still be detected on careful management of the light. On the addition of syrup, gum, saline solutions, or dense fluids generally, they lose their smooth circular outline, become shrivelled, puckered, stellate, caudate, and misshapen in various ways. The same thing results from exposure of a thin film of blood to the atmosphere for a short time, and may be observed in the blood of those in whom the liquor sanguinis is unusually loaded with fibrin. The colourless cells also swell out on the addition of water, and become shrivelled when dense fluids are added. Acetic acid partially dissolves the cell walls, and causes the nucleus to appear as a single, double, or tripartite granular body. Occasionally it is seen to consist of four or even five granules; the latter is rare. In addition to the physical properties now mentioned, the coloured nuclei possess great elasticity, and may frequently be seen elongating themselves in passing through narrow passages, and at once regaining their natural form immediately afterwards. They consist of a membrane containing a colourless fluid. I have succeeded in lacerating the former, and seeing under the microscope the latter escape.

Origin of the blood corpuscles.—It has been previously shown, when treating of Chylification and Sanguification, in what way the blood corpuscles are formed in the lymphatic or blood glands, how they join the circulating blood and become coloured in the lungs. It has been supposed by some that the coloured are a transformation of the colourless corpuscles, and by others that the former are the nuclei of the latter, and escape from them on the cell walls being ruptured or dissolved. I consider that while in mammals the coloured corpuscles are, in truth, nuclei, they have never formed portions of cells, but are the result of that coalescence of molecules in the blood glands which

FIG. 60.

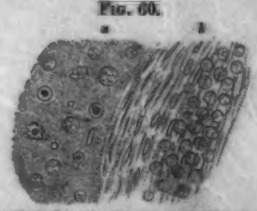

Fig. 60. Chyle from the thoracic duct of a dog, three hours after eating a meal. *a*, Fluid chyle, showing its molecular basis and corpuscles in various stages of development into those of blood. *b*, Corpuscles of chyle imbedded in fibrillated fibrine. They are round in the centre, but more or less compressed and elongated towards the margin. (250 diameters.)

precedes cell formation. The colourless corpuscles, on the other hand, are cells, and are derived from the blood glands as such, being generally more numerous in the splenic vein. Whether the nuclear granules they contain may sometimes be liberated in the adult, and ultimately form coloured blood corpuscles, as supposed by Wharton Jones, and as unquestionably takes place in the fœtus, is not yet determined, but I am inclined to think not, from having in certain cases of leucocythæmia seen nuclei, evidently liberated from these cells, remaining uncoloured in the blood, as in Fig. 61.

FIG. 61.

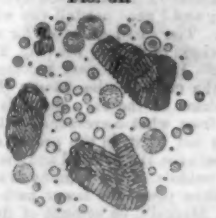

FIG. 62.

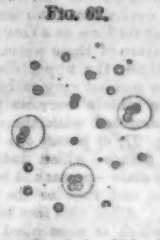

Fig. 61. Human blood in a case of leucocythæmia, in which, with increase in the number of colourless cells, there existed a number of uncoloured nuclei.
Fig. 62. The same after the addition of acetic acid. (250 diameters.)

Numerous observations, however, have satisfied me that chyle corpuscles may be seen to form, and be transformed into, bodies in every respect, except colour, resembling the bi-concave discs of blood, without the agency of cells (see Fig. 60).

The liquor sanguinis and its coagulation.—The liquor sanguinis is a slightly viscous yellow fluid, in which the blood corpuscles swim. To it the property of coagulation possessed by the blood is owing, which is effected by the separation of the fibrin it held in solution. This may be seen under the microscope, in favourable cases, (as was first shown by Dr. William Addison,) to be precipitated in the form of molecular fibres, which, entangling the corpuscles together in a mass, so form the clot of the blood. In normal blood the coloured corpuscles are equally diffused through the mass, but whenever coagulation is delayed they have more time to sink

towards the bottom of the vessel, leaving a whitish layer above, which is the buffy coat. Dr. Richardson endeavoured very ingeniously to show that coagulation depended on the escape of a small quantity of free ammonia which exists in blood. Mr. Lister, however, has pointed out that in man and other mammalia, though this phenomenon occurs rapidly in the heart and great venous trunks, the blood remains fluid for days in vessels of smaller calibre, although free opportunity be given for the escape of ammonia as much in one case as in the other. If blood be kept cold, also, it will remain fluid, though acid, a fact quite incompatible with the ammonia theory. Dr. Bruecke found that if blood shortly after death was allowed to flow into a glass tube it rapidly coagulated, whilst if kept in the veins it remained fluid. So that the wall of the blood-vessel exercises an influence in preventing coagulation.

Chemical constitution of the blood.—Numerous analyses have been made of this fluid by the most distinguished chemists, and yet no two of them have been alike. This is explained by the fact that the chemical constitution of blood must constantly be undergoing changes, not only in various individuals, but in the same individual, from differences in diet, assimilation, respiration, excretion, exercise, and the numerous circumstances which influence the animal economy. It also varies in the two sexes. From a calculation deduced from numerous analyses, I think you may adopt the following conclusions with safety as to the chemical constitution of the blood in health:—1. That the great bulk of the blood is made up of water, varying from 760 to 800 parts in 1000 parts. 2. That the fibrin is very small in quantity, varying from 1½ to 3 in 1000 parts. 3. That the amount of albumen ranges between 60 to 70 parts. 4. That the amount of corpuscles ranges between 130 to 150. 5. That the extractive matter and fat range from 1 to 4 parts. 6. That the saline matters range from 5 to 10 parts.

Function of the blood.—The blood circulating through the body may be regarded as a river flowing by numerous canals through a populous city, which not only supplies the wants of its inhabitants, but conveys from them all the impurities which through various channels find their way into its stream. The chief supplies enter the circulation, as we have previously seen, in the form of water and of blood corpuscles from the primary digestion. These receive oxygen in the lungs, where they become coloured, are sent all over the body, and in the ultimate capillaries yield up their oxygen, which combines with carbon and other chemical constituents of the tissues to form numerous combinations. After a time they are dissolved in the liquor sanguinis, which fluid they serve to elaborate. The blood also receives and holds in solution the products of the secondary digestion, so that it is a highly elaborated, viscous, and complex organic liquid. It is the blastema from which the living molecules, nuclei, cells, and other elements of the tissues are continually attracting, on the one hand, new matter to supply the place of what is lost, and on the other, old matter which has sufficiently served the purposes of the frame. In what manner this important fluid utilizes the various products it receives from both sources is as yet unknown. All that we can determine is that the whole is in incessant motion, rushing rapidly out from the heart through the arteries, divided into minute streams by capillaries in the tissues, returning more slowly by the veins—a circuit through the frame completed in half a minute—subjected to the constant collision of about two billions of semi-solid corpuscles, incessantly undergoing chemical alterations when exposed to the peculiar action of every organ in the body; and while imparting one or more of its constituent principles in this or that tissue as it passes through it, at the same time absorbing those which have been worn out in the service of the economy. Blood, therefore, is the mixture of the histogenetic and histolytic processes of the body. It is in the circulation they mingle together, and it is there consequently we must look for an explanation of numerous morbid conditions which derangements in so nicely balanced an organic fluid may be expected to produce.

Morbid conditions of the blood.—I need not dwell upon the vast importance which from the earliest times has been attached to alterations in the blood as a cause of disease. The red, white, yellow, and black bloods of Hippocrates—the acid and alkaline blood of Van Helmont—the *error loci* among the blood corpuscles of Boerhaave—and the sthenic and asthenic states of the constitution contended for by Brown and Broussais—have each in turn regulated the medical practice of civilized nations. In recent times, most laborious efforts have been made by means of the microscope and of chemical researches to investigate the exact condition of the blood in disease; and the general results of these I must now lay before you, the more so as they tend to overthrow altogether the speculative results of our forefathers. In the first place let us ask what are the

Structural alterations of the blood in disease.—Mr. Wharton Jones pointed out that in inflammations the blood corpuscles do not arrange themselves in the same kind of network by means of rouleaux as in health. This depends upon the increased spissitude of the blood, which alters their shape—a condition, however, which is not peculiar to inflammations, as it is common in hypertrophy of the spleen and liver. In the latter pathological state, I have seen the blood, on being extracted from the patient, present the appearance represented in Fig. 63. The fibrin may be seen deposited in filaments, and

FIG. 63.

Fig. 63. Human blood in a case of hypertrophy of the spleen and liver, where, in addition to slight leucocythæmia, the coloured corpuscles were greatly altered in shape, and molecular fibres deposited. (250 diameters.)

uniting the coloured corpuscles in chaplets, they being dragged out at their two poles so as to exhibit an oval form. This and other alterations in the form of the coloured corpuscles are owing to physical causes—generally increased spissitude of the liquor sanguinis, diminishing their elasticity, and producing greater or less collapse and puckering of their envelopes. (See Fig. 59.)

Leucocythæmia.—In 1845 I discovered the blood to present the appearance seen in the figure (Fig. 64). I called it suppuration of the blood without inflammation. It occurred in a case of hypertrophy of the liver, spleen, and lymphatic glands.

FIG. 64.

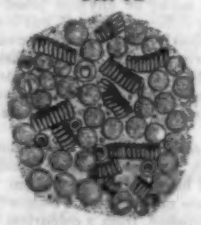

Fig. 64. Human blood in an extreme case of leucocythæmia.

FIG. 65.

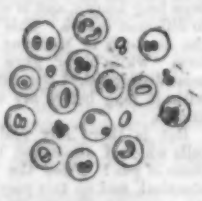

Fig. 65. The same after the addition of acetic acid.

At that time the subject of inflammation and pyæmia was engaging the attention of pathologists. By W. Addison and Williams it was maintained that an increase in the colourless cells was the cause of inflammation. Piorry talked of a hæmatitis, or inflammation of the blood, as a cause of pyæmia, by which expression others meant absorption into and admixture of pus with the blood. All these views were at once overthrown by the publication of my case, which demonstrated the admixture of numerous colourless cells identical with those of pus in the blood without inflammation or pyæmia. At that time I did not overlook the possibility of these cells being the colourless corpuscles of the blood; for I observed* "that the blood in a state of health contains a number of colourless corpuscles, which closely resemble those of pus." Again, "With regard to the colourless corpuscles of the blood, we know of no instance where they existed in the amount, or ever presented the appearances, described." This is true. Up to that moment no such case had been investigated; and, notwithstanding their close resemblance, the identity of these bodies in all particulars had not been proved. From these remarks, however, it has been attempted to be shown that I denied they were the colourless corpuscles; but I purposely abstained from saying more than was recognised, leaving the identity of these bodies to be ascertained by future observation. The truth is, the mere name given to these corpuscles appeared to me then, as it does now, to be of secondary importance, so long as the meaning attached to them is understood. Call them pus cells, colourless cells, or leucocythæ, after Robin; speak of the fluid in which they occur as a purulent fluid, as leukhæmic fluid, or as a leu-

* Edin. Med. and Surg. Journ. for October, 1845.

cocytotical fluid (!) (see Virchow's "Cellular Pathology," p. 167,) the cells and the fluid are still the same. But to show that, whatever term be employed, the cells and fluid containing them were in no way connected with inflammation, was, at that time, an important step in pathology. Still, the employment of the terms pus and suppuration was certainly apt to mislead. This was why subsequently I proposed the expression leucocythæmia, or white cell blood, because it "expresses the simple fact, or a pathological state, and involves no theory."

Six weeks after the publication of my case Virchow published a similar one, with the following introduction:—"In the older authors observations occur here and there concerning blood which had so completely lost its colour that it was likened to milk, chyle, mucus, or pus. The communication of the following case will confirm this apparently fabulous statement."* The fact that struck him most was the colourless condition of the blood. He therefore called it "leukhæmia," or white blood; and although epistaxis occurred before death, and the blood was seen to possess its natural colour, he is led by this to the conclusion, "that the remarkable transformation of the red blood into white *can only have occurred to that degree in the latest stages, for the blood of the epistaxis was always red*"!

Now the truth is, that in this disease the blood is never white at all. The coagula after death are white or colourless; but so they are in a variety of affections where coagulation takes place slowly. If, then, I committed an error in calling the state of the blood "suppuration without inflammation," as some maintain, I must leave you to judge whether a greater error was not committed in calling it white blood when it certainly was not white. Moreover, if my term "suppuration" led to confusion by assimilating the altered blood to pus, though maintained to be independent of inflammation, Virchow's term led also to confusion by causing it to be confounded with a state of the blood which has been recognised as fatty, chylous, or true white blood, from the earliest times. Thus, while I endeavoured to prove that a new morbid condition was independent of inflammation, Virchow sought to establish the doctrine of a "white blood," originally put forth by Hippocrates. The real white blood—that is, milky or chylous blood—had been long known, and is not only different in itself, but is owing to different causes. This was clearly shown in a discussion of the Academy of Medicine in Paris, Jan. 29th, 1856, where the term "white blood" gave rise to the greatest confusion, the most distinguished chemists maintaining they had been familiar with it long before my observations on leucocythæmia were known.

But is there any real difference between the colourless cells which I discovered in such numbers in the blood, and those of pus? From the first I have maintained them to be identical, and on this point we are now told by Virchow† that "a pus corpuscle can be distinguished from a colourless blood cell by nothing else than its mode of origin. If you do not know whence it has come, you cannot say what it is; you may conceive the greatest doubt as to whether you are to regard a body of the kind as a pus or a colourless blood corpuscle. In every case of the sort the points to be considered are, where the body belongs to, and where its home is. If this prove to be external to the blood, you may safely conclude that it is pus; but if this is not the case, you have to do with blood cells." According to this definition, a cell closely resembling a pus cell in the saliva, inasmuch as it originates externally to the blood, is a pus and not a salivary cell. On the other hand, if a bloodvessel be full of a thick, creamy, yellow fluid, containing a multitude of cells, indistinguishable from pus cells, inasmuch as these are formed in the blood, it is not pus. According to Professor Virchow, therefore, practical men in future, in a case of puerperal phlebitis, when they see the uterine sinuses and neighbouring veins distended with pus, or surgeons when they see the veins of the arm full of purulent matter, from the bend of the elbow to the axilla, are to conclude that it is not pus! I maintain, on the contrary, that such fluid is pus, because it results from inflammation; *that* is the real question to be considered. It is only when it occurs independently of inflammation that the lesion can be said to be one of a novel character, as I first stated. Some, perhaps, will say it is not pus but *leucocytosis*. This new word of Professor Virchow means white cell formation, so that the secretion of saliva, a gonorrhœa, or an abscess is a leucocytosis, inasmuch as there is a formation of colourless cells in all of them. Such confusion of ideas and of terms can never take a place in pathology. An alteration in words is not an alteration of things. White blood has no real existence, unless chylous blood be so called, the term being copied by Professor Virchow from the older writers. Hence the expression LEUCOCYTHÆMIA, or white cell blood, is the only one which properly distinguishes the lesion in question.

The importance of this discovery, however, was not only manifested in demonstrating that an admixture of colourless or pus cells with the blood in great numbers was not the cause of inflammation nor of the so-called condition of pyæmia. It led to the confirmation of the views of Hewson as to the origin of the blood corpuscles in the lymphatic glands, which up to that time had not been generally received in physiology. In a paper read to the Royal Society of Edinburgh in 1852, and in a separate work on Leucocythæmia, I directed attention to this matter.* The disease is always connected with hypertrophy in one or more of the lymphatic glands. In health, as we have seen, these form the blood corpuscles. When hypertrophied, many of the nuclei, which, as such, constitute the coloured corpuscles, are in these glands formed into cells, and, entering the blood, thereby increase the amount of the colourless cells in that fluid, and diminish the number of coloured nuclei. It is to be regretted that, though acquainted with these facts and my writings on the subject, Prof. Virchow, when revising his work on "Cellular Pathology" for the English press, should have published as follows to the countrymen of Hewson:—"A good many years elapsed (after 1845), during which I found myself pretty nearly alone in *my views*. It has only been by degrees, and indeed, as I am sorry to be obliged to confess, in consequence rather of physiological than pathological considerations, that people have come round to those ideas *of mine*, and only gradually have their minds proved accessible to the notion that, in the ordinary course of things, *the lymphatic glands and the spleen are really immediately concerned in the production of the formed elements of the blood*."—("Cellular Pathology," by Chance, p. 172.)

The fifth chapter of Hewson's work, containing an account of the manner in which the red particles of the blood are formed, (p. 274, Sydenham's Society's edition,) may be referred to for a complete refutation of this claim of Prof. Virchow. Hewson says, concerning the production of the formed elements of the blood (sect. 108, *op. cit.*, p. 285): "But if we allow the spleen to make the red part of the blood, we can readily account for the reason why the spleen may be cut out of an animal and yet the animal survive and suffer but little inconvenience; for though the *office of the spleen is to form the red particles of the blood*, yet it is not the only organ in the body capable of doing that office, *for we have already proved* (sections 85 and 88) that the lymphatic vessels do also form the vesicular portion; the spleen therefore is not the only organ capable of doing it," &c.

It follows therefore from what has been said—1st. That Prof. Virchow cannot claim the discovery of leucocythæmia as a matter of fact and observation, because the first case of it was carefully described and published by myself, six weeks before he wrote on the subject, and separated from all known lesions under the name of "suppuration of the blood independent of inflammation," an idea previously unknown. 2nd. That he cannot claim it in consequence of calling it "white blood," as this was spoken of by the ancients, and is everywhere known as the milky or chylous blood of authors. 3rd. That he cannot claim it on the ground that the colourless cells of the blood are different from those of pus, as it is admitted by himself that they are identical. 4th. That he cannot claim it on the ground that he first pointed out the blood corpuscles, coloured or colourless, to be derived from the spleen and blood glands, as this was unquestionably made out by Hewson nearly a century ago.

Softening and breaking up of blood coagula.—Another important discovery which greatly advanced our knowledge of the pathology of the blood was made by Mr. Gulliver, who demonstrated that fluids exactly resembling pus to the naked eye were the result of mechanical softening of the clot, and that this could be determined by the microscope. As the result of numerous experiments and observations, he stated, in 1839,†—"1st. That coagulated fibrin when removed from the body and subjected to a blood heat, commences to soften in about forty hours, assuming the colour and consistency of pus, but easily distinguishable from it by microscopical and chemical examination. 2nd. That the purulent-like fluid found in the fibrinous clots of the heart and arteries, and so frequently in the veins, is essentially distinct from pus, and analogous to, if not identical with, softened fibrin. 3rd.

* Froriep's Neue Notizen, Nov. 1845.
† Cellular Pathology, p. 155.

* Leucocythæmia, or White-Cell Blood, in relation to the Physiology and Pathology of the Lymphatic Glandular System. Royal 8vo, plates.
† See Med.-Chir. Trans. for that year.

That the softening of coagulated fibrin is an elementary pathological condition of frequent occurrence, distinct from suppuration, and constituting a considerable proportion of the cases generally denominated suppurative phlebitis." These remarks threw a flood of light upon numerous morbid conditions of the blood, separating them from inflammation, and accounting for obstruction in the bloodvessels altogether independent of that pathological state. There especially resulted from them, in conjunction with the further original observations of Gulliver as to the fatty degeneration of bloodvessels, the now established fact of impaction of portions of the clot so broken up in distant vessels. That foreign solid bodies floating in the blood would obstruct the smaller vessels and occasion exudations was first shown by the experiments of Magendie, Cruveilhier, Gaspard, and others, who injected starch, quicksilver, and various substances into the blood, with the effect of producing fatal inflammations. In like manner fragments of the blood clot, softened and broken up in the manner described by Gulliver, have been shown, by Virchow, Kirkes, Tufnell, and others, to be carried by the circulation to the brain, lungs, or extremities, where they become impacted in smaller arteries, producing hæmorrhage, inflammation, and diminished nutrition in distant organs.

On all these topics it is to be observed that, whilst throughout Germany these facts have been widely published, under the new terms of Thrombosis and Embolismus, the name of Gulliver has never been mentioned. Well may that gentleman remark in his recent lectures on the blood, speaking of physiological science, "certain it is that many branches of it which have been well cultivated and wrought out in this country, are afterwards transferred to the continent, and published in books there, and then translated and brought back as novelties to us, in such simplicity—not to say duplicity—as to the real origin of the facts, that they are actually paraded as part and parcel of foreign genius and discovery."

Chemical alterations of the blood in disease.—The most laborious investigations into this subject have been made by the French chemists and pathologists, more especially by Andral and Gavarret,* in 1840, and by Becquerel and Rodier, in 1844, whose researches have for the most part been confirmed by subsequent investigators. The results which the latter chemists arrived at are as follows:—1st. Venesection greatly diminishes the number of the blood corpuscles, increases the amount of water, slightly diminishes the albumen, but in no way affects the fibrin, extractive matters, or salts. 2nd. That plethora is a simple increase of all the constituents of the blood. 3rd. That anæmia is in truth a misnomer, but is used in the sense of a diminished number of the corpuscles, or spanæmia. 4th. That inflammation increases the amount of the fibrin from 3 to 10 in 1000 parts, doubles the quantity of cholesterine, and diminishes the albumen. 5th. That the fibrin is diminished in fevers, exanthematous disorders, intoxication, starvation, and purpura hæmorrhagica. 6th. When any secretion is checked, its essential principles accumulate in the blood. 7th. The albumen of the blood is diminished in Bright's disease, in cardiac dropsy, and in puerperal fever.

These conclusions, founded on a large number of data, are most important, and, as we shall subsequently see, while opposed to former views of medical practice, especially in acute inflammatory diseases, completely harmonise with the results of modern experience.

General view of diseases of the blood.—To enter at length into all the diseases of the blood is here impossible. I shall therefore content myself, in conclusion, with giving a list of the chief alterations to which it is subject in man:—

1. Increase or diminution of the blood as a whole—*Plethora, spanæmia.*
2. Increase or diminution of the coloured corpuscles—*Polypyrenæmia* (πυρην, nucleus), *oligo pyrenæmia.*
3. Increase of the colourless corpuscles—*Leucocythæmia.*
4. Increase of the fatty molecules—*Lipæmia.*
5. Increase of the fibrin—as in *inflammations.*
6. Decrease of the fibrin—as in *fevers, exanthemata, purpura hæmorrhagica,* and *scurvy.*
7. Increase of albumen—as in *scrofula, cancer,* and *morbid growths.*
8. Decrease of albumen—as in *Bright's disease, cardiac dropsy,* and *puerperal fever.*
9. Increase of uric acid—*Uræmia,* as in *rheumatism, gout,* and *calculi composed of lithates.*
10. Increase or diminution of earthy salts—as in *rachitis, malacosteon, calculi composed of phosphates.*
11. Increase of sugar—*Glycohæmia,* as in *diabetes, calculi composed of oxalates.*
12. Increase of bile—*Cholæmia,* as in *jaundice.*
13. Poisons of various kinds—*Toxihæmia,* divided into:
    a. *Animal poisons,* such as from *putrid pus* or *ichorhæmia* (commonly called pyhæmia); from *syphilis, small pox, scarlatina, measles, erysipelas, glanders, plague,* &c.; from *bites of venomous animals,* &c.
    b. *Vegetable poisons,* such as from *opium, belladonna, aconite, strychnia,* &c. &c.
    c. *Mineral poisons,* as from *carbonic acid gas, sulphur vapour, mercury, arsenic,* &c. &c.

* Annales de Chimie et de Phys., (tome 75, p. 225.)

EXPERIMENTS ON FOOD; ITS DESTINATION AND USES.

BY WILLIAM S. SAVORY, ESQ., F.R.S.,
ASSISTANT-SURGEON AND LECTURER ON GENERAL ANATOMY AND PHYSIOLOGY, ST. BARTHOLOMEW'S HOSPITAL.

IN reference to the purposes fulfilled by food and its classification, it seems to me that the following experiments may be worthy of notice.

Abundant, nay superfluous, evidence has been furnished to prove that no one principle of food will alone suffice for nutrition; but clear and unequivocal evidence is still wanting to show how far each principle of food is essential to life and health, provided all else, save that one, be sufficiently supplied. This is a very different question.

Again, ever since Liebig's famous classification of food into plastic or nutritive and respiratory or calorifacient—for whatever obscure hints may have preceded him, he was clearly the first to set this forth—some most important questions in connexion with it have engaged the attention of physiologists. Amongst them are these:—

Is any food destined to the production of heat without being concerned in the repair of the tissues—that is, is any portion of the food directly burnt in the blood?

Is any portion of albuminous food directly calorifacient—that is, burnt in the blood without forming tissue?

This last question has more recently assumed another form—viz., What is the source of urea? Is it derived wholly from the metamorphosis of tissues, or directly to some extent from the blood? In other words, Does any portion of nitrogenous food undergo a directly retrograde metamorphosis into urea, carbonic acid, and water?

In reference to these and some other questions (which I will afterwards allude to), I performed the following experiments:—

Experiment 1st.—Statements concerning the proportion of fat contained in the lean of various meats differ very widely.

A portion of the lean of veal, carefully cleansed from all adhering fat, was analyzed for me by Mr. Attfield, and found to contain 1·55 per cent of fat.

On September 20th, 1860, I commenced feeding a healthy female kestril hawk with veal from which every visible particle of fat and cellular tissue had been previously removed. Nothing but the simple lean was given, and no other food of any kind. The bird had a full supply of this diet till the 20th November.

During the whole of that period the condition of the bird was excellent, and at the termination of the experiment it had unquestionably improved in appearance and general condition, and also in courage and ferocity.

During the whole period it was kept in a wicker cage in the open air, the temperature of which during the greater portion of the experiment varied between 40° and 50° Fahr.

At the commencement of the experiment the temperature in the rectum was 106°, and at the termination the same, 106°.

Active exercise of course was out of the question. The bird was usually seen motionless either on the perch or the floor of the cage.

In relation to the purpose of this experiment, I regard the lean veal upon which this hawk was exclusively fed as simply a nitrogenous diet, non-nitrogenous food being practically absent, for a hundred parts of flesh, about one-fourth of which consists of solids, contained only about one and a half parts of fat.

Experiment 2nd.—On September 26th I placed four tame, healthy rats* in a cage in a warm place (the temperature on an

* Rats were chosen as subjects for these experiments because they are omnivorous, and will readily feed on almost any kind of diet. Moreover, from their size, they are very convenient to manage.

average being about 65°), and fed them exclusively upon a diet composed of equal parts by weight of arrowroot, sago, tapioca, lard, and suet.* The last two substances were, previous to their admixture, boiled and strained, so as to separate extraneous matters.

Through the kindness of Dr. Frankland, this mixed diet was carefully analyzed, and found to contain only ·22 per cent. of nitrogen.

The rats were allowed as much of this food and water as they chose to take.

At the commencement of the experiment the rats weighed collectively 1 lb. 6¾ oz. after a full meal.

For the first few days they appeared to be very well, and exhibited no material alteration. Then after awhile they evidently lost weight, and gradually became very emaciated and weak.

On October 24th one rat, a black-and-white one, died. It weighed 3 oz.

On October 29th a second rat, a brown-and-white one, died. It weighed 1¾ oz. without intestines, which had been partially devoured by the remaining two before the dead rat could be removed.

On November 2nd the temperature of one of the rats still living, a white one, was 94½° in the rectum.

On November 19th a third rat, a white one, died. It weighed 2½ oz.

On November 20th the weight of the fourth rat, a white one, still living, was 4 oz. 10 grs.

All the rats were reduced to an extreme degree of emaciation. Their weights showed a loss of more than 40 or 50 per cent.

A post-mortem examination revealed the same condition as after the complete deprivation of food. The fat had entirely disappeared. The intestines were pale. What muscular tissue was left appeared healthy and normal. There was no falling off of the hair; no affection of the cornea. The fæces were well formed, and presented a natural aspect.

All the rats up to the time of death appeared to be lively, though of course at last very feeble. The surviving rat was carefully fed, after the death of the third one, upon good food containing nitrogen—bread, milk, cheese, &c.; but it did not improve, and in a day or two it died.

The food upon which these rats were fed may be regarded as consisting of various non-nitrogenous substances only, and practically wanting in nitrogenous principles; for there was only about one part of nitrogen in 500 parts of food.

Experiment 3rd.—Three tame rats,—a white, a brown-and-white, and a black-and-white one,—in good health, weighed collectively on the 22nd of May, 1861, after a miscellaneous diet, 1 lb. 3¼ oz.

On May 23rd they were placed on a diet of wheat and water.

On June 4th their collective weight was 1 lb. 3 oz.

The urine collected† from one P.M. June 3rd to one P.M. June 4th, amounted to 101 grs., and contained 4·76 per cent. of nitrogen.‡

June 7th.—Their weight was 1 lb. 4 oz.

The urine collected from one P.M. June 5th to one P.M. June 6th, amounted to 74 grs., and contained 3·97 per cent. of nitrogen.

The urine collected from one P.M. June 7th to one P.M. June 8th, amounted to 63 grs., and contained 5·22 per cent. of nitrogen.

On June 8th, at one P.M., they were placed exclusively upon the same diet as that employed in Experiment 2—viz., upon equal parts, by weight, of arrowroot, sago, tapioca, lard, and suet, the mixture yielding upon analysis only ·22 per cent. of nitrogen. They were allowed as much of this food and water as they chose to take, but nothing more.

Urine collected from one P.M. June 14th, to one P.M. June 15th, amounted to 102 grains, and contained 1·326 per cent. of nitrogen.

June 20th.—They weighed collectively 1 lb. 2 oz.

Urine collected from one P.M. June 21st, to one P.M. June 22nd, amounted to 95 grains, and contained 1·765 per cent. of nitrogen.

June 21st.—They weighed 1 lb. 1 oz. 7 drs.

27th.—Their weight was 1 lb. ¾ oz.

28th.—Their weight was 1 lb. ¼ oz.

From one P.M. June 28th, to one P.M. June 29th, only 7 grs. of urine were collected. This was not analyzed.

Urine collected from one P.M. July 1st, to one P.M. July 2nd, weighed 47 grains, and contained 2·02 per cent. of nitrogen.

Urine collected from one P.M. July 5th, to one P.M. July 6th, weighed 42 grains, and contained 1·09 per cent. of nitrogen.

July 6th.—Their weight was 14¼ oz.

8th.—Their weight was 13¾ oz.

12th.—Their weight was 13 oz. 2 drs.

Urine collected from one P.M. July 12th, to one P.M. July 13th, weighed 42 grains, and contained 2·40 per cent. of nitrogen.

19th.—Their weight was 11¾ oz.

Urine collected from one P.M. July 19th, to one P.M. July 20th, weighed 22 grains, and contained 4·25 per cent. of nitrogen.

24th.—Their temperature in the rectum was—

Brown-and-white rat, 98°.

Black-and-white rat, 97°.

White rat, 93°.

Urine collected from one P.M. July 26th to one P.M. July 27th, amounted to 14 grains, and contained 1·19 per cent. of nitrogen.

27th.—Their weight was 10 oz. 7 drs.

On July 28th the white rat died, and was partly eaten by the others. A post-mortem examination revealed a state of extreme emaciation. No trace of fat could be discovered.

The two rats still living were in a most emaciated and feeble condition. The state of the fur was remarkable; it was rough and matted as if wetted, and decidedly greasy. This was very obvious to the touch. Moreover, the spine was abruptly curved in the back, corresponding with the contracted state of the abdomen.

July 29th.—The two surviving rats were placed on a nitrogenous diet—bread and meat.

August 1st.—Their temperature in the rectum was—

Brown-and-white rat, 99°. Black-and-white rat, 98°.

The total amount of the non-nitrogenous diet consumed during the whole period of the experiment was 3¼ lbs.

The foregoing facts are arranged in the following table:—

Date.	Weight of three Rats.	Amount of Urine collected.	Percentage of Nitrogen in it.	Total Amount of Nitrogen.
	lb. oz. dr.	Grains.	Grains.	Grains.
May 22 (diet miscellaneous) ... } May 23 (commenced diet of wheat and water)	1 3¼			
June 3—4	...	101	4·76	4·8
4	1 3			
5—6	...	74	3·97	2·93
7	1 4			
7—8	...	63	5·22	3·28
June 8 (commenced non-nitrog. diet)				
June 14—15	...	102	1·326	1·35
20	1 2			
21	1 1 7			
21—22	...	95	1·765	1·67
27	1 0¾			
28	1 0¼			
28—29	...	7	(Not analyzed.)	
July 1—2	...	47	2·02	·94
5—6	...	42	1·09	·46
6	14¼			
8	13¾			
12	13 2			
12—13	...	42	2·40	1·00
19	11¾			
19—20	...	22	4·25	·93
26—27	...	14	1·19	·16
27	10 7			

* My object in making this mixture was, while avoiding, so far as it was practicable, the presence of nitrogen, to obtain variety.

† The urine was collected in the following way:—The floor of a small cage, of sufficient size to contain the rats for twenty-four hours without inconvenience, was formed of thin wire, the bars of which were placed so closely as to prevent the passage of the fæces, and all solid particles except those of a very small size, but through which of course the urine could freely escape. The cage was placed over a porcelain vessel, in which the urine was collected. From this it was transferred into a small bottle kept ready for the purpose.

Of course in this case there would always be some loss of urine, partly from its contact with different surfaces, and still more from evaporation. In a future experiment it will be seen that I have endeavoured to avoid this as far as possible. But the loss by evaporation could scarcely affect the absolute amount of nitrogen contained in the urine, while the loss which resulted from other causes could not have been such as to affect materially the main conclusion drawn from this part of the experiment—that there was no more nitrogen excreted in the urine than could be accounted for by the disintegration of the original tissue.

‡ All the numerous analyses of the urine recorded in these experiments were most kindly made for me by Dr. Attfield, our late Demonstrator of Practical Chemistry, and therefore their accuracy may be relied on.

Experiment 4th.—The two surviving rats were, after the death of the white one, as just mentioned, placed on a diet of bread and meat. They would, in all probability, have lived only a day or two longer on the non-nitrogenous food.

On the fourth day, August 2nd, at nine A.M., they were placed on a diet of lean veal (precisely similar to that on which the hawk was fed in Experiment 1) and water. They drank very freely. They were not allowed active exercise.

A striking improvement in their condition was visible almost immediately after they were allowed nitrogenous food. The rapidity with which a change for the better occurred was very remarkable. They became active and lively. The fur recovered its natural aspect, and the sharp curve in the spine disappeared.

August 9th, one week after the diet of lean veal, their united weight was 9 oz. 1¼ dr.

Temperature in rectum of brown-and-white rat, 100°.
" " black-and-white rat, 99¼°.

August 10th, their united weight was 10 oz. 1 dr.
" 12th, " " 10 oz. 1 dr.
" 14th, " " 10 oz. 1 dr.
" 17th, " " 9¼ oz.

Temperature in rectum of brown-and-white rat, 99¼°.
" " black-and-white rat, 98°.

August 20th.—Their united weight was 10 oz. 2 drs.
Temperature in rectum of brown-and-white rat, 99°.
" " black-and-white rat, 98¼°.

August 23rd.—Their united weight was 10 oz.
Temperature in rectum of brown-and-white rat, 101°.
" " black-and-white rat, 100°.

August 30th.—Their united weight was 10 oz. 1 dr.
Temperature in rectum of brown-and-white rat, 101°.
" " black-and-white rat, 100°.

The large quantity of urine which the rats passed while fed upon this diet corresponded with the large quantity of water taken, and afforded a striking contrast to the amount of urine excreted in the previous experiment.

They passed upwards of a fluid ounce in the twenty-four hours; on an average about nine drachms.

Experiment 5th.—On the 30th of August, at twelve noon, the two rats which were the subjects of the previous experiments were placed on a mixed diet of nitrogenous and non-nitrogenous food. They were allowed as much as they chose to eat of the veal and the non-nitrogenous mixture with water.

September 2nd.—Their united weight was 11 oz.
Temperature in rectum of brown-and-white rat, 101¼°.
" " black-and-white rat, 101°.

September 6th.—Their united weight was 14¾ oz.
Temperature in rectum of brown-and-white rat, 101¼°.
" " black-and-white rat, 100°

September 13th.—Their united weight was 14¼ oz.
Temperature in rectum of brown-and-white rat, 100°.
" " black-and-white rat, 100°.

The striking increase of weight here noted was accompanied by a corresponding improvement in their general condition.

Experiment 6th.—On December 31st, two tame healthy rats were placed in one of the cages described in Experiment 7, and fed for seven days upon an exclusive diet of wheat and water.

The quantity of food consumed from January 1st, twelve noon, to January 2nd, twelve noon, was of wheat 9 drs.

January 3rd.—Their united weight was 11 oz. 7 drs.

The quantity of wheat consumed from January 3rd, twelve noon, to January 4th, twelve noon, was 10 drs.

The urine was collected in the manner described in the next experiment from January 6th, twelve noon, to January 7th, twelve noon.

The total quantity was 148 grs.
This contained of nitrogen 3·5 grs.

On January 7th, one week from the commencement of the experiment,

Their united weight was 12 oz.
Temperature in rectum, 100¼° and 99¼°.
The temperature of the room was 60°.

Jan. 7th.—One P.M.: They were now placed on an exclusive diet of lean veal and water.

The quantity of veal consumed from Jan. 9th to Jan. 10th was 10 drs.
From Jan. 13th to Jan. 14th, 12 drs.

Jan. 14th.—Their united weight was 11 oz. 7 drs.
Temperature in rectum, 100° and 100°.
Temperature of room, 60°.

Jan. 18th.—Their united weight was 10¾ oz.
Temperature in rectum, 100¼° and 99°.
Temperature of room, 52°.

Quantity of food consumed from Jan. 17th to Jan. 18th was 15 drs.
From Jan. 20th to Jan. 21st, 14 drs.
From Jan. 23rd to Jan. 24th, 15 drs.

Jan. 28th.—Their united weight was 10 oz. 5 drs.
Temperature in rectum, 102° and 101°.
Temperature of room, 63°.

The urine was collected from January 27th, twelve noon, to January 28th, twelve noon.

The total quantity was 990 grs.
This contained of nitrogen 27 grs.

Quantity of food consumed from Jan. 29th to Jan. 30th was 15 drs.
From Jan. 31st to Feb. 1st, 20 drs.
From Feb. 3rd to Feb. 4th, 17 drs.

Feb. 4th.—Their united weight was 8¾ oz.
Temperature in rectum, 100° and 100°.
Temperature of room, 65°.

The urine was collected from Feb. 4th to Feb. 5th.

The total quantity was 909 grs.
This contained of nitrogen 28·5 grs.

On Feb. 5th, at one P.M., the two rats, which, excepting loss of weight, did not appear the worse for the experiment, were placed on a miscellaneous diet.

On Feb. 12th, one week afterwards—
Their united weight was 12¼ oz.
Temperature in rectum was 101¼° and 101°.
Temperature of room was 66°.

(To be concluded.)

ON THE USE OF GLYCERINE IN SURGERY AND MEDICINE.

BY R. J. TILT, M.D., M.R.C.P.,
CONSULTING PHYSICIAN TO THE FARRINGDON GENERAL DISPENSARY, ETC.

GLYCERINE is not sufficiently valued in this country as a therapeutical agent; whereas the high estimation in which it is held on the Continent may be inferred from the fact, that from 1851 to 1861 the annual consumption of glycerine in the Paris hospitals rose from 300 lbs. to 3000 lbs. I propose to point out the principal advantages of glycerine from personal experience, and from that of an eminent Paris surgeon, M. Demarquay, who has been chiefly instrumental in introducing this agent, and has just published the results of his experience in an interesting little work. In the process of making lead plaster glycerine is produced, but, as it contains lead, it has an irritating action on abraded surfaces. The only glycerine, therefore, fit for medical and surgical uses is Price's, which is made by subjecting palm oil to steam raised to a temperature of 300° centigrade, and its specific gravity should be 1·26.

Glycerine is too well known to require description. Although derived from fatty substances, it will not combine with them, but mixes with water in any proportion, and has the power of dissolving all our active therapeutical agents about as readily as weak alcohol.

SURGICAL USES OF GLYCERINE.

Pure glycerine.—In household surgery, glycerine is known as the best remedy for chapped hands and slight irritation of the face and lips. I have found it invaluable when freely used in nasal, pudendal, and anal irritation. It is applied in a large number of skin diseases in France; and Maisonneuve, Denonvilliers, and Demarquay use it to dress ulcers and wounds, instead of cerate. It appears to have antiseptic properties, inasmuch as it speedily gives a healthy appearance to foul, unhealthy, and even pultaceous looking wounds. This is admitted by Baron Larrey, whose report is in other respects unfavourable to its use in surgery. Indeed this antiseptic property might be inferred from its preserving from decomposition meat and microscopic objects that are kept in it, or have been steeped in it.

Liniments.—Glycerine does not become rancid, like oil. It is cleaner, can be easily washed off, and does not stain the

body linen like oil. Though glycerine does not dissolve fat, it is said to dissolve the sebaceous product of the skin, and thereby to facilitate the absorption of the various ingredients which it may hold in solution. For these reasons, glycerine is far preferable to oil as a basis for liniments.

Lotions.—Since Mr. Startin has praised glycerine as a useful ingredient of lotions for the skin, this has been fully admitted. Its stability, cleanliness, innocuousness, and antiseptic properties make it a valuable ingredient for all the variety of lotions which are applied to the inflamed or to the unhealthy mucous membranes of the mouth, eyes, nose, ears, rectum, and vagina.

Ointments.—When starch is boiled in glycerine the membranes burst and uniformly thicken the liquid. If eighty grains of starch are boiled in one fluid ounce of glycerine, a moderately stiff and tenacious plasma or ointment is the result. It is stable, inodorous, clean, and is capable of holding in solution or suspension all the agents usually incorporated with lard. Glycerine ointment does not become rancid like other fatty substances, does not soil the body linen, and can be instantaneously removed by means of a damp towel.

Mr. Bullock, of Hanover-street, has made experiments of combining glycerine with several kinds of starch, and I lately exhibited the samples at a meeting of the Obstetrical Society. Every kind of starch makes a very serviceable product, but maize and the ordinary starch seem to give the stiffest and most satisfactory result.

It has been objected to glycerine ointment that it is too absorbent of moisture to be useful; but this is not true. It absorbs moisture only to a limited extent—suggesting to the pharmaceutist the advisability of not making a large quantity at a time, and of keeping it closely covered up.

Glycerine ointment has been used in France under the name of *Glycerat d'amidon*. It has been extensively prescribed by my friend Mr. Henry Lee, and by Dr. Symonds and Dr. W. Budd, of Clifton. Mr. Schacht, of the same town, wrote a paper on the subject, which will be found in the *Pharmaceutical Journal* for 1858. For the pelvic and spinal pains attendant on uterine inflammation I frequently prescribe the following ointments:—Sulphate of atropia, two grains; glycerine, half a drachm; oil of neroli, four drops; glycerine ointment, one ounce. A portion of this ointment about the size of a small walnut is to be well rubbed-in night and morning. Acetate of morphia, ten grains; otto of roses, one drop; glycerine, half a drachm; glycerine ointment, one ounce.

Plasters.—It occurred to me that by boiling a larger quantity of starch in the same quantity of glycerine the ointment might become stiff enough for all the purposes of plasters. Mr. Bullock therefore boiled 100 to 150 grains of starch in an ounce of glycerine, and obtained a very firm and tenacious compound, to which I have directed attention, in my "Handbook of Uterine Therapeutics," as well calculated to make ready-made plasters, not open to the objections raised against those in common use, which either do not stick at all, or stick so firmly that their removal is difficult. Some of them also smell so disagreeable as to interfere with a patient's sleep, while others cause a skin irritation which was not desired. With the glycerine plasters the patient may continue using the sponge bath or any other bath that may be advisable, as there is no difficulty in removing and replacing the application. This hard glycerine ointment is capable of holding, partly in solution partly in suspension, all the ingredients of the plasters now in use. It can be made softer by being rubbed up with a little glycerine, and I tell the patient to spread it thickly with a paper-knife on gutta-percha cloth, or on the fluffy side of leather, or on impermeable wash-leather. Before re-applying the plaster it is well to spread a little more ointment, and they can be speedily cleaned with a sponge and tepid water. Thus, instead of prescribing a belladonna plaster, I order—Sulphate of atropia, four grains; otto of roses, one drop; hard glycerine ointment, one ounce. The salt is to be rubbed down with a few drops of glycerine, and incorporated with the ointment. I give veratria in the same proportion, and double the quantity of morphia. The following compound sedative plaster can be made in the same manner:—Sulphate of atropia, three grains; veratria, three grains; sulphate of morphia, eight grains; otto of roses, one drop; hard glycerine ointment, one ounce.

MEDICINAL USE OF GLYCERINE.

It is said to be useful in dysentery, and its antiseptic properties justify its trial in cases of ulceration and inflammation of the stomach and intestines. Experience has not confirmed the assertions of those who affirm that it acts on the system like cod-liver oil.

Grosvenor-street, Grosvenor-square, March, 1863.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

ST. GEORGE'S HOSPITAL.

MALIGNANT DISEASE OF THE BLADDER, PRECEDED BY HÆMATURIA, AND FOLLOWED BY EPILEPTIFORM CONVULSIONS AND DEATH; RAMOLLISSEMENT OF BOTH HEMISPHERES OF THE BRAIN.

(Under the care of Mr. JOHNSON.)

THE urine for some time before admission, in the following case, had been very dark, and on the patient's entrance into the hospital was found to contain blood and urinary casts. On a subsequent occasion malignant cells were seen, the urine then being of a dark coffee grounds colour and highly albuminous. The hæmaturia persisted in spite of remedies, and convulsions occurred, which ended fatally. The post-mortem section fully explained the nature of the symptoms: malignant disease of the bladder and softening of the brain were found. The latter existed to a remarkable extent, the brain being quite pulpy and diffluent. The details of the case are full of interest.

Sarah O——, aged fifty-nine, admitted Aug. 6th, 1862, under the physicians, with supposed disease of the kidney, the most prominent symptom being bloody urine. She was transferred to the surgeons in September, as the symptoms at that period pointed to bladder complication. She then gave the following history of herself. She said that she had been ailing for eight months, having become weaker and thinner, and always feeling "languid and out of sorts." For some time past she had noticed that the urine was very dark.

On admission she was extremely emaciated. The urine under the microscope exhibited an immense number of blood corpuscles and many urinary casts; no malignant cells were detected, though they were on a subsequent occasion. The urine itself was of a dark coffee-grounds colour, and deposited a large precipitate of albumen on the application of heat. The patient complained of pain, sometimes severe, but generally of a dull aching character, in the lower part of the spine. She was ordered at first gallic acid and opium, under which she seemed to improve, and the blood in the urine diminished. She did not, however, regain strength, and emaciation proceeded rapidly. Subsequently the hæmaturia recurred as badly as ever, and all the various remedies administered in these cases were tried without avail. In December she was seized with fits of an epileptiform character, which recurred frequently up to the time of her death, which took place on the 24th of January last from exhaustion.

Autopsy, forty-five hours after death.—Body much emaciated, with large bed-sores on the hips. There was an unusual quantity of sub-arachnoid fluid, and the exposed surface of the brain seemed shrunken. The white matter forming the centre of the left hemisphere was softened, without any change of colour. The alteration chiefly occupied the tissue above the level of the ventricle, extending in the vertical direction for about an inch; in the horizontal direction it occupied the greater part of the middle lobe and the neighbouring portions of the other lobes. On the right side the same change had reached a greater extent. All the lateral surface of the posterior and middle lobes had a boggy, flaccid appearance; and on section, the greater part of the white matter in these regions was found to be in a state approaching pulp. The whole surface from the posterior tip of the hemisphere to about the centre was thus affected. The arachnoid covering the softened parts had attached to its inner surface a number of little yellow specks, like atheroma. Where the convolutions came in contact with the softened white matter they were softer, yellower, and narrower than usual. The cerebellum was healthy. The aortic-valve flaps had on their edges a row of small beads of recent lymph. The mitral valve

was slightly thickened. The cavities of the heart were blood-stained. The lungs were healthy. The liver was somewhat shrunk, and had an uneven surface. The kidneys were in a well-marked condition of granular degeneration, much shrunk, and contained cysts. The bladder was infiltrated with malignant disease, which projected into its cavity in the form of rounded masses, some as large as chesnuts. The lumbar glands were infiltrated with encephaloid deposit, like that in the bladder; and the right ureter was embedded in the mass. All the other viscera were normal.

GUY'S HOSPITAL.

EXTENSIVE RUPTURE OF THE BLADDER FROM A SEVERE FALL; FATAL RESULT.

(Under the care of Mr. POLAND.)

THE following case is remarkable for the great extent of the rent through the posterior wall of the bladder, which it is reasonable to presume must have been completely distended with urine at the time of the injury.

John P——, aged thirty-five, admitted in August, 1862. He had been drinking, and betook himself to jumping over a stile. He succeeded in doing so, but came violently upon a heap of stones on the other side of the stile, striking his abdomen as he fell. Though suffering much, and bleeding from the wound caused by the injury, he managed to walk some thirty yards to a surgeon, who tried to catheterize, but failed. The man passed a little drop of blood instead of urine that night. After thirty-six hours had elapsed he was brought to Guy's Hospital. Two days after the fall Mr. Poland introduced a No. 1 catheter, and drew off five ounces of bloody fluid; and six hours afterwards Mr. Durham drew off three quarts of bloody urine. The man died that night, having shown signs in the later hours of his life of great collapse and peritonitis.

Autopsy, twelve hours after death.—Was a stout, well-built man. The peritoneum was vascular, and contained about two quarts of bloody fluid, while in and near the region of the right kidney was a quantity of clotted blood. The stomach exhibited stellate spots of congestion posteriorly, near its cardiac end, where the membrane was lacerable; the same conditions were present in a minor degree on the anterior wall. The bladder was ruptured through its upper and back part in the middle line, vertically, or nearly so; the rent was so extensive as in the contracted viscus to measure from three and a half to four inches in length. The mucous membrane was healthy in texture, but beneath and in its substance were some irregular extravasations of blood, one or two presenting the shape of a rounded elevation of the mucous surface. A catheter introduced into the bladder easily passed through the torn hole into the cavity of the abdomen, from which latter the extraordinary quantity of fluid was doubtless drawn during life.

GREAT NORTHERN HOSPITAL.

CALCULUS IN THE BLADDER OF A BOY; REMOVAL BY LITHOTOMY; GREAT CONTRACTION OF THE BLADDER; RECOVERY.

(Under the care of Mr. T. CARR JACKSON.)

A PECULIAR circumstance occurred during the operation in the following case—the bladder so firmly contracted as to offer some difficulty in laying hold of the stone with the forceps. This point is specially noticed by Mr. South in his translation of Chelius. Sir Benj. Brodie also dwells upon it, and writes that when the muscular tunic is contracted it offers a considerable resistance to the opening of the forceps, and is liable to be ruptured if the blades are opened rudely and incautiously. A case of the kind is related by Sir Benjamin where this accident occurred to a surgeon and caused death, the rupture being found three quarters of an inch long. Mr. South performed lithotomy in a child of nineteen months, wherein the contraction was as violent as that mentioned by Sir Benjamin, and to a degree of which he had no notion. Some minutes elapsed before the blades of the forceps could be opened to seize the stone, and this was effected by gentle efforts, the bladder yielding slowly. "Now, had I violently attempted to open the forceps in this case, I should undoubtedly have torn the bladder, as in that mentioned by Brodie."

This observation of Mr. South applies with equal force to Mr. Jackson's patient, and the same gentle efforts were at last rewarded by successful extraction of the calculus.

W. P——, aged eleven years, a remarkably intelligent boy from Bloodly-heath, near Godstone, was admitted Jan. 2nd, 1863, with symptoms of stone in an aggravated degree. His mother states that he had been ill more or less for two years; but that at the beginning of last summer his sufferings became so severe that she took him to a dispensary in an adjacent town, where it was surmised he had stone in the bladder. The fact of its existence, however, was not verified at that time by physical examination. The patient coming under the notice of Mr. Chapman, of Lingfield, in the month of December last, that gentleman passed a sound, and immediately detected a calculus, apparently of some size, and forthwith sent the little fellow to Mr. Jackson for operation. The symptoms were unequivocal—great pain after passing urine, inordinate expulsive efforts in doing so, and blood occasionally with the urine. The attitude of the patient was, moreover, peculiar and characteristic: he walked with a straddling gait, his body bent forwards, with his hands in his breeches constantly elevating and pulling forwards the penis for relief, avoiding the slightest vibration by volitional effort; and, well knowing the cause of his sufferings, he earnestly requested that the operation might be performed without delay.

He was kept a week in the hospital for the benefit of meat diet and other preliminary preparation, and on the 10th, having been rendered insensible by chloroform, Mr. Jackson performed the lateral operation. The urethra was unusually large for so young a child, admitting a No. 9 staff without the least difficulty, thus rendering the execution of the operation, so far as the cutting was concerned, unusually easy; but delay arose in the extraction of the calculus, owing to the considerable resistance offered to the opening of the forceps when introduced into the bladder. The stone could be readily felt with the point of the instrument, but appeared to recede; and it was only by patiently waiting for the subsidence of the firm contractions of the bladder that the calculus could be seized, which was at length effected and the stone extracted. It was the size of a pullet's egg, and in shape oval and flattened; its weight nearly half an ounce.

The child had not a bad symptom after the operation. The urine passed by the urethra on the seventh day, and partly by that channel and partly by the wound until the third week, from which time it passed entirely by the urethra. He was discharged six weeks after the removal of the calculus with the wound firmly healed, having been allowed a prolonged stay in the hospital from charitable motives, as his parents were poor.

KING'S COLLEGE HOSPITAL.

STRICTURE OF THE URETHRA, TREATED BY IMMEDIATE DILATATION.

(Under the care of Mr. FERGUSSON.)

THE notes of the two following cases were kindly furnished by Mr. W. J. Smith, house-surgeon to the hospital:—

H. C——, aged thirty-seven, a blacksmith, was admitted into the Albert ward, with stricture of the urethra, Feb. 14th, 1863. About seven years ago he had gonorrhœa, followed by a gleet, which lasted a long time; no injections were used About five years ago he had sudden retention of urine, for which he applied at the Charing-cross Hospital, where he was relieved by a hot bath. A year and a half after this, he again applied at the hospital with retention. No instrument could be passed, but a warm bath enabled him to micturate. In August, 1860, he again suffered from retention, and applied at St. Bartholomew's Hospital. No instrument could, however, be passed, and the bladder was punctured above the pubes. In a few days the stricture was treated by gradual dilatation, and when it admitted a No. 6 catheter he was discharged, the urinary fistula having closed up in twenty-two days. Since that time he has neglected himself, and has had no instrument passed, his difficulty in micturition gradually increasing, till, on the 14th of February, he applied at King's College Hospital with complete retention. A No. 3 catheter was passed, and a large quantity of urine drawn off; he was then admitted as an in-patient.

He has a contracted urethra, with a very long stricture, commencing about half an inch beyond the external meatus,

and extending backwards for about three inches; there is also another slight stricture at the ordinary seat at the bulbous portion.

Mr. Fergusson thought it a good case for dilatation by Holt's method, and, having first dilated the stricture gradually so as to admit a No. 5 catheter, on March 14th introduced Mr. Holt's curved director, and then performed immediate dilatation. After the instrument was withdrawn a No. 10 bougie was passed easily into the bladder. Directly after the operation he was ordered to take a pill containing two grains of quinine and half a grain of opium. In the evening he had a little shivering, but since then has been very comfortable, passing his urine in a full stream. A No. 10 catheter was passed on March 16th and 20th, and on the 21st he was discharged cured.

STRICTURE OF THE URETHRA CURED BY IMMEDIATE DILATATION.

(Under the care of Mr. HENRY SMITH.)

WM. S——, aged thirty-five, a native of London, was admitted March 11th, with stricture of the urethra. Has had a stricture for fourteen years, the cause of which he attributes to a blow received on the genitals. He says that he has never had gonorrhœa, but has had frequent fits of retention, of which he has always been relieved at the Charing-cross Hospital by the passage of instruments. For five weeks before admission he was under the care of Mr. Smith as an out-patient; nothing higher than a No. 4 catheter could be passed into the bladder, owing to the great spasm and irritability of the urethra. He is a pale nervous man, of temperate habits. The stricture is very tight and irritable, situated at the anterior portion of the bulb.

Chloroform having been administered on the day of admission, Mr. Smith introduced Mr. Holt's director, and immediately dilated the urethra; when the instrument was withdrawn a No. 10 catheter was passed into the bladder. A draught of quinine-and-opium was then ordered to be taken directly.

March 14th.—No. 10 catheter passed into the bladder.

20th.—No. 10 catheter passed again, but with much difficulty, there being great spasm of the urethra. The man says that he passes his urine in a large full stream. Discharged cured.

ST. BARTHOLOMEW'S HOSPITAL.

THE EPIGLOTTIS SEEN AT THE BACK OF THE THROAT WITHOUT THE AID OF INSTRUMENTS, IN A SYPHILITIC PATIENT.

(Under the care of Mr. LAWRENCE.)

THERE are very few instances in which the epiglottis can be seen at the back of the mouth by the unaided eye; and when this does happen to be possible, the throat is usually capacious, and the individual has the power of protruding the tongue to an unusual extent. Persons subject to disease of the throat, and who have been able to see their own epiglottis, have sometimes mistaken it for an abnormal growth or tumour. An instance of the kind is recorded by Professor Czermak, in his work "On the Laryngoscope." It is the thirteenth case at p. 65 of the New Sydenham Society's translation. The patient believed that his disease was caused by a singular growth, which he could perceive when he opened his mouth very wide and protruded the tongue. This was the projecting epiglottis, which possessed a reddish colour; but this circumstance permitted of a ready laryngoscopic examination.

When going through the syphilitic male ward at St. Bartholomew's Hospital some months back, a patient drew Mr. Lawrence's attention to some lumps in his throat. He was thirty years of age, and had been admitted in the latter part of July, 1862, with acute inflammation of the prepuce, thickening and contraction of the orifice, and a thick sanious discharge. The prepuce was divided in its whole length, exposing a sloughing ulcer on the dorsum of the glans, with a slough attached. There was superficial ulceration of the rest of the glans and lining of the prepuce. He was quite well some weeks later, when he drew the attention of Mr. Lawrence to the lumps referred to in his throat. These were found to be enlarged papillæ at the back of the tongue, and readily seen on its protrusion; at the same time, the epiglottis could be distinctly seen to the extent of one half of its length, possessing its natural colour and appearance. This patient could protrude his tongue so fully that its point reached to the chin. His general health had been extremely delicate throughout.

WEST LONDON HOSPITAL.

STONE IN THE BLADDER, HEREDITARY AND CONGENITAL; LITHOTOMY; RECOVERY.

(Under the care of Mr. TEEVAN.)

THE following case is interesting, inasmuch as it appears that the diathesis was hereditary on the mother's side, and that she and her relatives were natives of a district where calculus is common. It is most probable, also, that a stone was present at birth.

H. B——, a pale, delicate-looking boy, aged six years, and born in London, was admitted an in-patient for vesical calculus on Jan. 6th, 1863. His mother is a native of Ipswich; and his father, who is a Scotchman, stated that no relative on his side had ever suffered from stone, but that the boy's maternal uncle had recently had a calculus crushed, and that the child's maternal cousin had also come to town suffering from the same complaint. The parents stated that the boy had suffered considerably from his earliest infancy, and that when only two years of age he had passed a small stone, about the size of a pea, by the urethra.

The boy's health having much improved during his residence in the hospital, Mr. Teevan performed the lateral operation of lithotomy on Feb. 12th, and extracted a large lithic-acid calculus studded with phosphatic deposits. The stone was an inch and a half in diameter, and weighed six drachms. The patient made an excellent recovery, and left the hospital on the 14th March.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

TUESDAY, MARCH 24TH, 1863.

RICHARD PARTRIDGE, ESQ., F.R.S., PRESIDENT.

THE PRESIDENT, on taking the chair for the first time, thanked the Society for the honour they had done him in electing him their President. He would endeavour to show his sense of their kindness by devoting his time and abilities to the duties of his office. In doing this he should look back to the example of the distinguished physicians and surgeons of the past who had previously occupied the same chair. He urged the Fellows to new contributions for the "Transactions," as on the annual publications of the Society its reputation greatly rested.

ON DIPHTHERIAL NERVE AFFECTIONS.

BY EDW. HEADLAM GREENHOW, M.D., F.R.C.P.,

ASSISTANT-PHYSICIAN TO THE MIDDLESEX HOSPITAL, CONSULTING-PHYSICIAN TO THE WESTERN GENERAL DISPENSARY, ETC.

The author began by stating that the epidemic sore-throat which, under the name of diphtheria, had latterly engaged so much attention, was well known to be followed by nervous phenomena of a peculiar kind. These consisted chiefly of impaired, excessive, or perverted sensibility, together with more or less complete paralysis of the muscles of the fauces, pharynx, tongue and lips, extremities, trunk, and neck; the frequency of the occurrence of these symptoms in the several sets of muscles being nearly in accordance with the order in which he had placed them, the first named being the most frequently and the last the least frequently affected. The author had had the opportunity of watching the course of several cases of these diphtherial nerve affections in patients under treatment at the Middlesex Hospital, and the present paper was in a great degree based on those observations. He did not mean to infer that every attack of diphtheria was followed by some of these secondary nerve affections, for he had seen patients recover perfectly without experiencing any of them; nor to assert that their intensity was always proportioned to the severity of the primary disease, for he had sometimes seen them follow comparatively mild attacks of diphtheria. Nevertheless, as a general rule, he had certainly observed these nerve affections to be more frequent after the worst cases of diphtheria, and to bear some proportion even to the local severity of the attack; he had noticed, for instance, that the paralysis and anæsthesia were sometimes more complete on that side of the fauces which had been most severely affected by the primary disease.

The author had found that a brief period of convalescence—generally not exceeding a few days, but in rare cases extending to weeks—almost always intervened between the disappearance of the sore-throat and the accession of the nerve symptoms; and cases had fallen under his notice in private practice in which patients who had recovered sufficiently from diphtheria to be sent from home for change of air, had subsequently fallen into a helpless condition from diphtherial paralysis. The fact of this interval seemed to him important, inasmuch as it went far to show that the paralysis could not be entirely attributable either to the albuminuria which so often accompanies the acute stage of diphtheria, or to the anæmia which closely follows it, as patients had often got rid of the former symptom, and had even begun in some cases to regain flesh and strength, before the accession of the paralytic symptoms.

The author had observed that these nerve affections do not at once attain their maximum of intensity, but are progressive even in the same sets of muscles; and also that if several of the sets of muscles which he had enumerated should be attacked in the same individual, they do not become affected all at once, but in succession—the fascial or pharyngeal muscles being the first to suffer, and so on in the order in which he had placed them at the beginning of the paper—though it by no means followed that all of them should be affected in any one case. He had found the muscles of the fauces by far the most frequent, as well as the earliest, seat of nerve affections after diphtheria, and had seen them attacked in many cases in which the rest of the muscular system either entirely escaped or was very slightly affected. When the fauces were paralysed, the soft palate lost its natural action, the speech often became imperfect, and liquids regurgitated through the nostrils. These symptoms should be discriminated from the hoarseness of voice and return of fluids through the nostrils which often occur during the acute stage of diphtheria, and arise, as in ordinary quinsy, from the swollen and painful state of the fauces impeding the natural action of the parts. Anæsthesia had co-existed with the paralytic affection of the fauces in all the cases that had come under the author's notice, so that these naturally very sensitive organs became altogether callous and insensible to touch.

Next to the affection of the fauces, impairment of vision, probably due to paralysis of the ciliary muscle, appeared to be the most frequent of the nervous disorders consequent on diphtheria. The author had observed that the pupil of the eye became dilated and acted sluggishly under the influence of light a day or two before the sight became sensibly impaired, and often remained so for a time after the sight had been regained; also that patients unable to read with unassisted sight could do so with the help of convex spectacles; and hence he attributed the impairment of sight to a temporary loss of adjusting power.

The nerve symptoms which he had noted in the tongue and lips were, formication or a sense of scalding, numbness, and impaired taste and power of movement. They began, for the most part, in the lips and the tip of the tongue, and gradually extended upwards towards the dorsum and root of the latter organ.

The limbs had suffered more or less, in all the five cases which formed the basis of the paper, from paralysis and anæsthesia, besides tenderness and abnormal sensations, such as coldness, formication, and a feeling of constriction in the fleshy parts, as if they were tightly bandaged. These affections began either first in the upper, or at the same time in both the upper and lower extremities, and were at their commencement peripheral, extending gradually upwards from the tips of the fingers and toes towards the trunk, and in some cases affecting the lower part of the back and of the abdomen. He had found that pressure over the sciatic and median nerves was sometimes attended by acute pain, and that pressure of the instep between the finger and thumb sometimes caused convulsive starting of the leg and foot, as well as pain. He had observed that the paralysis in some cases assumed a more or less hemiplegic character, but had seen no instance in which, one side being paralysed, the other remained entirely unaffected.

The author had seen nerve affections after diphtheria of a graver character than any of those exemplified in the present group of cases, and several even fatal cases had fallen under his notice in private practice. In three of these latter, death was caused by failure of the action of the heart, and in one by exhaustion from vomiting. He believed, however, that such cases were fortunately exceptional, and that the great majority of sufferers from diphtherial nerve affections, under good management, sooner or later recovered their usual health and strength.

The author had satisfied himself that these cases were best managed on sound general principles. Generous diet, and a liberal allowance of stimulants, together with rest in bed, he believed to be always necessary. Tonics, especially steel and quinine or the mineral acids, he had found useful from the first appearance of the nerve affections; and after the complete development of the paralytic symptoms, nux vomica and strychnia had proved in his hands most valuable remedies.

Subjoined were the five cases on which most of the remarks in the paper were founded.

Mr. ACTON said that as three of his children had suffered from diphtheria, he had thought a good deal on the disease. He was sorry that the author had not given any opinion as to the cause. He (MR. ACTON) considered that it arose from deficient drainage, and mentioned several facts in connexion with the disease occurring in his own family in support of this view. One of his children had been attacked without any evident premonitory symptoms. The first thing to notice was an offensive odour from the nose. Mr. Acton then went on to speak of other symptoms, as the want of power to write properly, especially to write on lines, and sudden falling in running. It seemed, he said, as if the power suddenly failed. All his children got well, and he considered that if, after a certain stage of the disease, the children were sent into the country they generally got well. He considered the change of locality a very important point, and believed that removal saved the life of one of his children. Mr. Acton referred to the peculiarity of pronunciation after recovery from the diphtheria. One of his children for nearly a year after could not say, "ah," or pronounce the letter w.

Dr. WEBER related several cases of paralysis after diphtheria, in which there had been much the same symptoms as in Dr. Greenhow's cases. He could not, however, agree with Dr. Greenhow as to the order in which the symptoms followed. He (Dr. Weber) had found that the first symptom was a great slowness of the pulse. This began during the persistence of the diphtheritic membrane, or just after its removal. It might be as low as 36. It was possible that this symptom might not be due to paralysis, as it had been shown that *irritation* of the pneumogastric caused retardation of the pulse. Still the depression was so great that he (Dr. Weber) thought it was the result probably of paralysis rather than irritation. He considered that the prognosis was generally favourable; but in two cases in his practice there had been a fatal result. In these, however, there were complications—viz., in one, fatty degeneration of the heart, and in the other, valvular disease. Dr. Weber then asked the question, whether the paralysis of diphtheria was to be looked on as a necessary part of diphtheria—as a "secondary" symptom of the disease? He did not give any opinion. He referred to other diseases in which similar affections followed.

Dr. SANDERSON had seen a great many cases of diphtheritic paralysis, and believed that it depended not so much on a loss of muscular power as on a want of co-ordination of the muscles. The different power of movement at different times showed this. Again, patients who could walk or use their arms for rough purposes could not do anything fine, as button a shirt. The defect of sight might be explained on the same principle. In all cases the defect of sensibility preceded that of motility.

Dr. WOOD related a case of paralysis which came on after diphtheria. It affected the fauces, limbs, and trunk, but not the sight. The paralysis was so great that the patient could not turn in bed, and could not feed himself. In another case there was no paralysis, but melancholia: the patient was an inmate of St. Luke's Asylum.

Dr. SIBSON suggested that the paralysis of the throat might be the result of some local affection of the muscles themselves during the acute stage.

Dr. GREENHOW, in reply, said that his paper being exclusively on the secondary nerve affections of diphtheria, he had necessarily abstained from all reference to the etiology of the primary disease. He might say, however, as the question had been raised, that in the course of his experience, which had been very extensive, he had altogether failed to discover any direct relation between diphtheria and the local impurities referred to by Mr. Acton. He must also dissent from that gentleman's remarks on treatment; for, on the one hand, he (Dr. Greenhow) had found rest a very important element in the treatment of the secondary nerve affections; and, on the other, he had repeatedly found, as stated in his paper, that change of air had not the effect of warding off their accession. At a later period, however, when patients had begun to recover from these nerve affections, their convalescence was undoubtedly accelerated by removal into a pure country air. Several questions had been proposed to him as to the pathological nature of diphtherial nerve affections.

(Dr. Greenhow) could have wished that the gentlemen who had put them had at the same time stated their own views on the subject, if they had formed any; for himself, he was unwilling to express any positive opinion on so obscure a question until further observation should have enabled him to verify what he could now only put forward as conjecture. He could not quite agree with Dr. Weber in regarding the slowness of pulse, which he had so well described, as one of the most frequent secondary symptoms of diphtheria. In his (Dr. Greenhow's) experience it had rarely occurred, and not oftener in the secondary than in the primary stage of the disease. Whenever it did occur, it was a serious and too often a fatal symptom, and he was disposed to think with Dr. Weber that it depended on some affection of the pneumogastric nerve. It was no doubt true, as Dr. Sanderson had suggested, that many of the phenomena of these curious nerve affections were due to a want of co-ordinating power; but he (Dr. Greenhow) could not, like that gentleman, regard them as consisting entirely of paralysis of sensation; for although the loss of motor power only reached its climax *pari passu* with the muscular emaciation, there generally existed some degree of it from the beginning. The intense inflammation which had recently affected the superjacent mucous membrane might perhaps, as Dr. Sibson had suggested, partly account for the paralysis of the muscles of the fauces, but could scarcely explain the paralysis of the tongue and cheeks which had been sometimes observed, and still less that of the muscles of the trunk and extremities.

Reviews and Notices of Books.

On Diseases of the Chest, including Diseases of the Heart and great Vessels; their Pathology, Physical Diagnosis, Symptoms, and Treatment. By HENRY WILLIAM FULLER, M.D. Cantab., F.R.C.P.L., Physician to St. George's Hospital, &c. pp. 703. London: Churchill. 1862.

Researches on the Nature, Pathology, and Treatment of Emphysema of the Lungs, and its Relation with other Diseases of the Chest. By A. T. H. WATERS, M.D., M.R.C.P., Physician to the Northern Hospital, Liverpool, &c. pp. 114. London: Churchill. 1862.

Ueber der Behandlung der Lungenschwindrucht durch die Brusterweiterung und der Gebrauch der Scrophularia nodosa. Von Dr. J. SEILER. ss. 227. Basel and Genf: Georg. 1862.

On the Treatment of Consumption by Expansion of the Chest and the Use of Scrophularia nodosa. By Dr. J. SEILER.

WHETHER there was or was not a necessity for another systematic treatise upon the Diseases of the Chest is a question admitting of a twofold answer. There are many who will believe that both the student and practitioner have been already sufficiently and well supplied, and might properly be contented for some time to come. There are others who may argue that contentment is too often but the parent of mediocrity, and that competition is the only satisfactory guarantee that the public will be well cared for. Dr. Fuller's 700 pages will be to the former a work of supererogation; to the latter a welcome gift. The physician of St. George's has come to the conclusion that as regards the physical diagnosis of diseases of the chest, too many students yet continue to find themselves bewildered, and ready to regard the stethoscope as to them at least a hopeless mystery. He believes that although by extraordinary diligence and perseverance the more zealous learn to interpret its language correctly, the less fortunate and less persevering will be found to notoriously fail in mastering its difficulties. Under these circumstances the author thus writes:—

"My object has been to lessen these difficulties, and to render attainable by men of ordinary capacities and ordinary opportunities a science which is indispensable to every medical practitioner. I have endeavoured to begin at the beginning—to assume nothing, and to explain every auscultatory sign by reference to the morbid condition and consequent altered mechanism in which each takes its origin. My wish has been to inculcate the necessity for regarding each physical sign, not as indicative of a certain disease, but rather as the natural consequence of a certain physical alteration in the tissues, the source and true interpretation of which must be determined by concomitant circumstances.

"I have endeavoured to use the simplest language, so as to obviate the formidable difficulty presented by the confused and varied phraseology made use of by many writers on the subject, to give a definite meaning to each term which is employed, and to present a classification of the various sounds which shall be intelligible even to a novice at auscultation.. ...I have purposely avoided encumbering my pages with the discussion of remedies and modes of treatment which experience has proved to be undeserving of confidence, and, whether in respect to diseases of the heart or lungs, have contented myself with pointing out the particular methods of treatment which have appeared to me most generally successful, and based upon the soundest physiological grounds."—p. vi.

Though dealing with its subject matter from the most elementary phases, Dr. Fuller's treatise must not be regarded as simply and purely a student's book; on the contrary, were it not for its size we should consider it as well adapted to the busy practitioner, as its true spirit is seen in its essentially practical or clinical character, in spite of its dealing so much with the physical and vital causation of symptoms and signs. In some instances, the work before us is even polemical. The author's explanation of the mechanism and true significance of ægophony and of sundry other abnormal sounds, is at variance with that which is more frequently adopted. As relates to phthisis also, Dr. Fuller has brought together a variety of facts serving to elucidate several points upon which erroneous ideas, it is conceived, are commonly entertained. In these and analogous cases in which the views of others are expressed and discussed, concerning which there is considerable difference of opinion, the grounds upon which the author bases his own conclusions are stated, so that it is open for future observers and experimentalists to arrive at an estimation of their real value. But though thus elementary and occasionally polemical, our readers, who will remember the character of Dr. Fuller's well-known work "On Rheumatism," will not hesitate to accept our judgment that not the least important features of the work are those which spring from its practical and clinical relations.

For some time past there has been considerable discussion as to the determining causes and mechanism, if it may be so termed, of pulmonary emphysema. Laennec, laying much stress upon its frequent association with catarrh, considered that it must be caused by an over-distension of the air-cells from the accumulation of air in them, arising from the obstructed condition of the bronchial tubes. But, as Dr. Waters points out, the theory advanced by the great French auscultator proceeded upon the supposition that the inspiratory power is greater than the expiratory force. Now, the researches of Hutchinson and others have shown that this theory is incorrect; and, upon the contrary, that the force of exaggerated expiration considerably surpasses the power of the inspiratory effort. But with some slight modifications of the French doctrine, there still remain eminent authorities who regard emphysema as due to the effects of forcible expiration. Opposed to them are those who, influenced by what we have just stated, and by other facts, look upon it as due to forcible inspiratory efforts. According to Dr. Fuller, neither of these theories is exclusively correct. The pulmonary organs are so efficiently supported on all sides, that so long as they expand and contract freely, it is difficult to conceive how the fullest inspiration or the fullest and most forcible expiration can occasion rupture of the air-cells. Under these circumstances, and looking to the various diseased states with which emphysema is associated, Dr. Fuller adopts both the complementary lesion theory of Gairdner and the coughing theory of Jenner as necessary to explain the causation of this lesion of the air-cells. Dr. Waters affirms that it is very difficult to account for it by a forcible distension of the lung as the result of an inspiratory act, especially when we consider the amount of distension which the lungs will bear when in a healthy condition without any rupture of the air-sacs taking place—a distension probably far

greater than they undergo in those cases of disease where one lung or part of one lung takes on increased action to compensate for the want of action of a disabled portion. To quote Dr. Waters:—

"Although I am disposed to consider that in the majority of cases of emphysema, such as I have described as *partial lobular* and *lobular*, the most frequent cause is the cough, which may have existed for a longer or shorter time, yet this view of the determining cause is by no means sufficient to satisfy my mind with reference to that more important and extensive form of the disease denominated *lobar*. Cases of this kind are not unfrequently met with, as I have previously stated, where the disease has gradually crept on without the existence of any severe or long-continued cough, and where there has been little or no bronchitis. ..... To what mechanical cause, then, are we to attribute the distension of the lungs under the circumstances just mentioned? ..... I am disposed to believe that the distension is brought about by inspiration; that the lung tissue, being in an unhealthy condition and abnormally weak, gives way before the pressure which it would in a state of health resist; that having once yielded, it is unable to recover itself from having lost its elasticity."—pp. 50—52.

Hence, then, it appears that the two latest writers on pulmonary disease feel obliged to have recourse to both the expiratory and inspiratory theories in order to explain the occurrence of emphysema in its totality. It will be remarked, however, that in advocating his views as regards the inspiratory theory, Dr. Waters all the while supposes that a primary step in the disease is a degeneration of the lung tissue, and that the mechanical distension is a secondary consequence. And recent pathology has, in fact, stated that the great question for consideration in connexion with the pathology of emphysema is, after all, whether there be any degeneration of tissue either preceding or attending its occurrence—"whether, in fact, there is any local or general condition which so interferes with the normal nutrition of the walls of the air-sacs as to cause their perforation, rupture, and even total destruction." (Waters, *op. cit.*, p. 23.) According to Mr. Rainey and Dr. C. J. B. Williams, it is *fatty degeneration* of the lung tissue which aids in bringing about the atrophy and rupture of the cells. On the other hand, Dr. Jenner affirms that the most frequent anatomic change in the lung, producing loss of its elasticity, is *fibrous* degeneration, "the consequence of that variety of lymph which escapes from the capillaries when they are the seat of slight but long-continued congestion." Others, again, have endeavoured to show that there is *hypertrophy* of the pulmonary tissue in emphysema. Upon this important and interesting point, Dr. Waters thus expresses the conclusion to which he has come:—

"Notwithstanding, however, that my investigations do not enable me to say what is the exact nature of the degeneration which leads to the production of emphysema, nor yet whether it commences as an affection of the capillary bloodvessels or of the elastic fibres and basement membrane, I do not entertain the slightest doubt that the disease, in its severe form, is of a constitutional nature; that one of its most important features, and perhaps the primary step in it, is a mal-nutrition of the pulmonary tissue, causing its degeneration, and giving rise to all the structural changes I have previously described."—p. 31.

We are prohibited from carrying this discussion further, but may observe that Dr. Waters, already well known by his investigations into the anatomy and physiology of the lungs, adds further to his repute by his present contribution towards the solution of an obscure part of the pathology of the same organs.

The main arguments of Dr. Seiler's treatise are, in the first place, that the chief symptoms of pulmonary phthisis consist in a deficient respiration and a gradually increasing falling-in of the walls of the chest; that such thoracic contraction and respiratory deficiency exist before the outbreak of the disease as tuberculosis in the lungs can be proved; that both symptoms depend most probably upon a relatively too weak inspiratory power, or upon a sort of debility of the muscles engaged in inspiration; that when (exceptionally) a natural cure supervenes, the inspiration will be found to have relatively increased, and the normal respiratory volume to have become established. It necessarily follows, then, says Dr. Seiler, that a chief consideration in the artificial treatment of consumption must be to strengthen the tone of the inspiratory muscles, augment the capacity of the thorax, and re-establish the normal respiratory volume. In the second place, these desiderata are to be most satisfactorily attained by the use of the galvanic induction-current, induced on a special apparatus constructed by the author, applied in a particular manner. The cure is to be further assisted by the administration of the expressed fresh juice of *scrophularia nodosa*. When, in spite of such treatment, the disease progresses, and the stages of softening and of the formation of vomica are attained, the inhalation of the juice of the same plant, brought about by means of the "pulverisator" of Dr. Sales-Giron, is advocated.

SANITARY DEFECTS IN SHIPS OF WAR.

To the Editor of THE LANCET.

SIR,—By giving wide currency to the following observations on this important subject, you may greatly promote the speedy adoption of a much-needed reform in our men-of-war, by which the health of the navy would be infallibly improved.

Lord Clarence Paget, the Secretary of the Admiralty, on moving the Navy Estimates in the House of Commons last year, 1862, said:—

"Everybody who has been on board ship will know that the state of the atmosphere in the lower decks is sufficient to provoke almost any kind of disease, especially phthisis and fever, as has been shown by the returns from the Mediterranean Fleet. We have had a committee sitting some time, and the result is, that the Admiralty have resolved to make every possible effort to improve the ventilation of the ships."

On moving the Estimates for the present year, 23rd of February, Lord Clarence Paget said:—

"We are trying various methods of ventilation, and we believe that when the ships are properly ventilated, there will be a great decrease in the sick-list."

Sir John Pakington on this occasion remarked:—

"To that part of my noble friend's speech which referred to the improved ventilation of our men-of-war, I listened with some regret. I understood him last year to say that a commission had been appointed to consider this subject, and, from the tone of his speech to-night, I am led to infer that that commission has not reported, or that it has not been able to make any suggestions on which the Admiralty would venture to act. I have received a communication lately that four of our ships-of-war on the West India station suffered so severely in 1861 from yellow fever that fully one-half of their crews were attacked with the disease, and that a very large number of the cases proved fatal, owing, in a great measure, to the impure atmosphere of the between-decks. I hope that the attention of the Admiralty will be directed to the subject."

Sir J. Elphinstone said:—

"Sufficient attention has not been given to the ventilation of ships which were to be employed in tropical climates. Last September I went on board one of these vessels. The temperature on the upper deck was 50°. On the lower deck I found the thermometer at 72°, close to where a man was lying in his hammock; and I was informed that at night, when the temperature was below 50° on the upper deck it was 78° on the lower."

When such remarks as these are made in Parliament, we may surely expect that something will be done, and that speedily, to remedy what is acknowledged by all medical officers of the service, I believe, to be a most fruitful cause of sickness, invalliding, and death in the navy. I have not heard the names of the committee to whom the Admiralty have referred the consideration of the best means to improve the ventilation of our ships-of-war. Perhaps one of your numerous naval readers will be so good as to state the composition of the committee, and what measures may already have been recommended or adopted on the subject.

I am, Sir, your obedient servant,

London, March, 1863. G. MILROY, M.D.

THE LANCET.

LONDON: SATURDAY, APRIL 4, 1863.

WE have no desire to invest with undue publicity exceptional instances of personal dishonour, unless they likewise involve the reputation of our profession. When this occurs we consider it a duty, though a painful one, to discuss the circumstances of any particular case, and not to shrink from the avowal of our opinions. Happily, we are seldom called on to notice proceedings in the Divorce Court. Very rarely indeed have medical men been cited as co-respondents to its suits. The obligations of their position, if they do not lend additional strength to their practice of social virtue, and we affirm that they do, serve at least to generally and deservedly keep our brethren above suspicion amid circumstances which render them at all times peculiarly open to insinuations. In the suit of STONE *v.* STONE and APPLETON, which occupied public attention during the past week, a divorce was granted on the ground of adultery, and damages to the amount of £2000 were awarded against the co-respondent. It is unnecessary for us in our criticism on the special facts of this very distressing case, to express our views as to the verdict of the jury. We desire to limit our observations exclusively to its professional and medical aspects, and this we do in the earnest hope that their teaching will neither be neglected nor forgotten.

Captain and Mrs. STONE had been married nine years. Together they had endured the dangers of the Indian mutiny. They returned to England, and lived some time at Budleigh Salterton, a village near Exeter. Mr. APPLETON, a local practitioner, became their medical adviser. In August, 1859, Captain STONE left to rejoin his regiment in India. His wife, pregnant with her fourth child, continued under the care of Mr. APPLETON. After delivery, Mrs. STONE seems to have had a tedious convalescence, and to have subsequently suffered from uterine irregularity, accompanied by a varicose condition of one of the lower limbs, which necessitated the continual wearing of a bandage, and its frequent adjustment by Mr. APPLETON. His visits became the subject of village gossip. A lady friend, whose attention was attracted by their length and number, called and suggested to Mrs. STONE that while she was being bandaged, some female should be present, and offered her services. The offer was refused on the ground that medical men generally did their business better without the presence of females. It was affirmed that on one occasion, in March, 1861, Mrs. STONE had said, that while under the influence of chloroform, Mr. APPLETON availed himself of the opportunity to commit a rape on her. The witness to this serious statement was a person of bad character, and of more than doubtful veracity, who for the last year had been a dependent of Captain STONE. A lady relative put the matter in a different light, alleging that Mrs. STONE had observed that Mr. APPLETON must be a very bad character; that she was frightened when she looked back on her severe illness, for he used a syringe, which caused her to swoon, and she seemed to dread what *might have occurred*, as she was thrown so much in his power as a medical man. There was no evidence that chloroform had ever been administered. Mrs. STONE's observation, it is right to add, was made months before there was any outward indication of pregnancy, and was in allusion to the flight of Mr. APPLETON from Budleigh Salterton, whose abandonment of his wife and six children formed the subject of severe comment, which flight, though shortly after the return of Captain STONE, was affirmed to have been caused by hopeless pecuniary embarrassment, and family differences in no way connected with this alleged misconduct. It should also be stated that, when questioned on the matter in consequence of an early suspicion on the part of Captain STONE, both Mrs. STONE and Mr. APPLETON denied in the strongest manner any undue or improper intimacy. There was no evidence that Mr. APPLETON was aware of the institution of the proceedings for divorce commenced many months after his departure. The service of the citation on him was by substitution.

These statements, without accepting them as facts, we affirm deserve the careful consideration of every man in practice. As a matter of prudence,—we take the lowest ground,—in all such operations medical practitioners should insist on the presence, in the same or an adjoining open room, of some lady friend. It is not requisite that in every instance she remain by the side of the patient. Consider the possible consequences of neglect of such an arrangement. We have recently had occasion to lament the facility with which the most serious, though groundless, charges can be advanced, and to deplore the ease with which very harmless conduct may be misconstrued. Suppose, in the present case, Mrs. STONE was not a married woman, but a needy, unscrupulous adventurer, and Mr. APPLETON a married man in metropolitan practice: how easy for her, were she so disposed, for the purpose of extortion, to trump up any charge against her medical attendant, and, perhaps, find not only ears inclined for its adoption, but funds available for its prosecution. Take another view, and grant that, forgetful of their mutual obligations, both yielded to the temptations of time and opportunity: when discovery ensues, what a grave aggravation attaches to the offence if circumstances appear to justify an unfounded charge of this worst possible form of felony! Or, again, suppose the case of a woman committed to detection, yet wishing to screen her paramour: how easy for her, from an attendance of this nature, to trump up a charge of seduction, if not rape, almost impossible to refute! It is well for medical practitioners to be fortified by circumstances as well as conduct. It is due to themselves, if not to their profession, that they hold as a maxim that precaution is something distinct from timidity, and that the exercise of a sound discretion implies generally the greatest boldness as well as the truest delicacy.

Passing from this part of the case, which addresses itself to every member of the profession, we direct attention to the medical evidence adduced in support of the petition. Captain STONE renewed intercourse with his wife on the 18th of May. A child was born on the 2nd of January following. Before this date Mrs. STONE had been accused of infidelity, and had been removed to Exeter, where the birth took place, with a distinct knowledge that the parentage of the child would be in dispute. Under such circumstances it seems a strange omission that the infant was not more closely examined. The evidence of Dr. WEBB, who attended Mrs. STONE, stated that it was an infant arrived at maturity. Dr. WEBB has since died. When his evidence was taken down he was not cross-examined as to his

grounds of opinion. He admitted his experience was not great. Dr. WEBB'S views were confirmed by Mr. NORTHCOTE, who, when acting as assistant to a chemist, had attended lectures on midwifery and cases at the Bristol Infirmary. These opinions were further supported by an alleged statement of Captain STONE, that shortly after his return he made observations respecting his wife being unusually stout, from which it was argued that intimacy had taken place with Mr. APPLETON about the middle of March. We exclude the absurd statements of SARAH HARRIS, in reference to the taking of "cipitate," as irrelevant to this question. On the other hand it was proved that at the end of April Mrs. STONE had the usual catamenial period. The nurse affirmed that the child, when born, was small and puny; that no preparations had been made for its birth; and that the labour was easy—of half an hour's duration; and further, that Dr. WEBB'S examination did not extend beyond a cursory view of the infant when fully dressed, and in her arms. Mr. PRATER, practising at Okehampton, saw the child after its birth, and considered it not of full time. Dr. TYLER SMITH and Mr. RICHARDS both gave evidence as to the danger of giving an authoritative opinion on so grave a subject from an imperfect examination, and detailed the difficulties which invest the decision of such a point, even when no impediments are thrown in the way of its truthful investigation, and spoke of Captain STONE'S observations as being not inconsistent with his wife's fidelity. Mr. Justice CRESSWELL, who seemed conversant with the writings of Dr. PARIS, in his summing-up to the jury, directed them to pay but little attention to the medical evidence, which, he affirmed, merely stated that a medical man might be mistaken; and argued that in all inexact sciences probable truth, not possible error, was what they should act on. We venture, in cases similar to this, to dissent from such ruling, and to affirm that, in a charge of a *quasi* criminal nature, the inverse of the proposition should be maintained. Here, in an inquiry of the first importance, to adopt a probable truth was to act on a possible error, and to refuse to the accused the benefit of such doubt, even though scientific men of the first character affirmed that the means employed for arriving at the former were insufficient, while the facts proved were certainly not inconsistent with the latter. What practical teaching is herein conveyed? Had a sufficiently careful investigation been instituted in the first instance, how different might have been the result! If Mrs. STONE, whose conduct was declared by the most adverse witness to have been hitherto exemplary, now suffers from an imperfectly formed, or hastily delivered opinion, what irreparable injury has she not sustained! On the other hand, if Dr. WEBB was correct in his view, how deeply is it to be regretted that either an apparent negligence in so serious an inquiry, and a silence on his part as to the reasons which determined his conclusion, should permit doubt to invest a judgment in which all that makes life desirable is involved!

We offer no further comment on this very sad case, and would gladly have omitted its notice altogether. We felt, however, that our brethren should be armed against the possible repetition of so grave a scandal, by learning the circumstances which have conduced both to professional and social ruin.

A BILL has been prepared and brought before Parliament by Mr. BRUCE and Sir GEORGE GREY, and has been ordered by the House of Commons to be printed, which, in the opinion of many, will, no doubt, be thought to be rather opposed to that noble British institution, "the liberty of the subject." This is the Bakehouses Regulation Bill—a Bill which asserts it to be expedient to limit the hours of labour of young persons employed in bakehouses, and to make regulations with respect to cleanliness and ventilation in such places. The proposed Act enforces the rule, that no person under the age of eighteen years shall be employed in any bakehouse between the hours of *nine* o'clock at night and *five* in the morning. If any person be employed in contravention of this rule, the owner of the bakehouse shall incur penalties varying from £2 to £10. The next section of the Bill enacts that the inner walls and ceiling or top of every bakehouse, and the passages and staircases leading thereto, shall either be painted with oil, or be limewashed, or partly painted and partly limewashed. Where painted with oil there shall be three coats of paint and the painting shall be renewed once at least in every seven years, and shall be washed with hot water and soap once at least in every six months; where limewashed, the limewashing shall be renewed once at least in every six months. It is ordained likewise, that every bakehouse shall be kept in a cleanly state, shall be provided with proper means for effectual ventilation, and shall be free from effluvia arising from any drain, privy, or other nuisance. The fifth section enforces the rule that no place on the same level with a bakehouse, and forming part of the same building, shall be used as a sleeping place, unless constructed in a particular manner therein specified.

From the various reports of Messrs. GUY, TREMENHEERE, and JULLICOE, and from the statements which have appeared from time to time in the *Social Science Review*, we may safely say that there are 15,000 journeymen bakers in the metropolis; and as the mode of life, health, and habits of these must considerably influence those of the women and children dependent upon them, there must be from 35,000 to 40,000 persons whose personal welfare is intimately linked with the method in which an important manufacture is daily carried on. The work of a metropolitan journeyman baker begins when most other people are going to bed, and he leaves his labour when other workmen are getting up to go to theirs. This labour also is conducted in a temperature ranging from 75° to upwards of 90° Fahr. Now, as a very large majority of the journeymen bakers commence their avocation when they are under eighteen years of age, occasionally even when so young as fourteen, and of which latter class more than 2000 are always to be found in London, it is maintained that there is an unjustifiable tampering with human health and happiness; that the loss of the usual hours of rest, or the turning of night into day, and the laborious work then carried on in so high a temperature, must seriously injure the constitution of young men, and will explain why the average life of a baker is reduced to forty-two years. This must be the reason, in fact, why Dr. GUY found amongst 111 journeymen 125 diseases to exist, or more than one separate disease to each man. The men engaged in this branch of industry have over and over again complained of their hardships; social reformers have taken up their grievances; and Parliament has on several occasions been asked to interfere in the matter, and to place the baking trade under legal supervision. But hitherto no relief has been officially afforded to the bakers. And why not? For these two very potent reasons: In the first place, the Government of this country refuses to endorse the doctrine that it is necessarily its duty to interfere with an

industrial pursuit whenever persons below a certain age are employed at it, or when those of any age are placed while at their occupation under conditions detrimental to life and health. In the second place, because journeymen bakers constitute but a unit in the number of artizans who begin a deleterious labour too soon, and who follow it under health-injuring circumstances. If it were the duty of Government to interfere in all such cases, where would it stop in its supervision? And if the bakers are to be attended to, who is to be neglected? What trade or avocation is there, indeed, which is not accompanied by some drawback in its performance? Even to be a "gentleman" is not without its disadvantages; for idleness and luxury are the handmaids of numerous afflictions. But, in sober earnestness, what are we to reply to that vast body of young people who are employed late at night in the close, ill-ventilated, or draughty atmosphere of public places of resort and amusement? Are the young, pale sempstresses, who work till two in the morning during a London season, and who are kept wide awake by strong tea, to be neglected? Shall the young printing hands, who are awake preparing our daily papers when others are at rest, tell us in vain how much sooner they would be in bed? Are our sailors and cabin-boys to continue to be roused up at midnight and sent shivering aloft whilst we protect our youthful bakers from the too great heat of their workshops? Above all, what are we to do with respect to the new and highly-deleterious employment of a large number of our fellow-creatures in connexion with the use of the sulphuret of carbon and vulcanizing processes? In fine, why are the ventilation, cleanliness, &c., of our compositors' rooms, the tailors' workshops, the oil and colour warehouse, of the sloppy fishmongers', and warm, dry hatters', not to come under authoritative inspection as well as those of the bakehouse?

It is clear that such a duty as we have hinted at is not only beyond the sphere of our legislation, but if it were to be assumed as within it, could never be performed. The institution of such an industrial police would never be tolerated by Englishmen. But the reply may be, that Government has interfered in some instances, and why may it not in others? There is the factory system, for example, which is under a certain supervision. True; but, as a recent writer has well shown, the system of factory supervision has been successful, in a measure, "first, because it was applied to one grievance comparatively limited in its extent, but terribly severe in its intensity; and secondly, because with the Government supervision there has been a parallel advance in public sentiment in regard to the labours of factory operatives. The factory system consequently supplied an exceptional reason for Government interference; but to base on an exception, itself but partly valid, a fundamental change in the liberties of the kingdom, is one of those strange political vagaries which attach in every age to a few men who make a boast of their own isolation, and are never so happy as in expressing their pity for a deluded world, which will not 'listen to the voice of the charmer, charm he never so wisely.'"

From what we have said, it may be thought, perhaps, that we are not thankful for this proposal to supervise the bakers. On the contrary, we think that some supervision over them is really required. But we do not think this simply because young bakers are up at night when they had better be in bed, and because close, hot, dusty bakehouses are not productive of a sort of agricultural healthiness. We think that supervision in this matter is necessary for much the same reason as we would advocate a proper inspection of butcher's meat and the doings at Newgate-market. Our food should be procurable wholesome, nice, and cheap. The community at large has a right to obtain protection from the craftiness or laziness of those who would trade upon the benefit of offering it us otherwise. If unsound meat is bad, dirty disgusting bread is not the less so. If it be clear that we must put up with the latter so long as bakehouses are conducted as they now are, we think an exceptional case has arisen for State interference; and it really would appear that as matters now go on, there is little chance of help from the masters. Hence, we speak in favour of the "Bakehouse Bill," but not for an inquisitorial legal supervision. If our readers have strong stomachs they may read Mr. TREMENHEERE'S reports upon breadmaking; as for ourselves, our gorge rises at the very thought of them.

Medical Annotations.

"Ne quid nimis."

THE CONDUCT OF MR. PROPERT.

STUBBORNNESS to persist in a course of error which has met with profound and unanimous condemnation, is a fault of the most dangerous kind; it is one which leads weak and vain men deeper and deeper into the mire, by making them regard the steps which might lead to atonement as more humiliating than that accumulated reprobation to which they can affect indifference. It is the fault which Mr. Propert has added to his misdeed in the case of Russell *v.* Adams. Nothing which he can do will now efface the recollection of that which he has misdone, and that which he has omitted. He sinned against the profession in which he was specially bound to cultivate fraternal regard, by listening and giving credence to a villanous charge against a professional brother, and obstinately refusing to hear the statements of the other side. He wronged Mr. Adams, and he wronged his profession by giving Mrs. Russell that support which enabled her to mature her plans, and to quote Mr. Propert at every stage as her backer, and as the party whose letters were a guarantee that she was not an impostor. The influence which Mr. Propert has, and which makes his name so powerful a weapon against his brother surgeon, has been given to him by his profession. Had he not earned professional confidence and respect, his name would have been less important a guarantee for the Russells. The whole influence which his brethren of the profession have by their support given to him he throws into the scale against one of them who was most scandalously attacked. To the last moment Mr. Propert supported these women. Herein he committed a grave error; he did a gross wrong, and helped to inflict on a meritorious surgeon an injury so serious, that any man, however walled in by obdurate pride or vanity, must reflect on it with pain, and should desire with earnestness to offer all the moral and material reparation in his power. The expense to which Mr. Adams has already been put by these *protégés* of Mr. Propert is stated to be between seven and eight hundred pounds, and the expense of the impending prosecution for perjury cannot be less than three hundred, and may extend to five hundred pounds.

But after this comes worse. When the public and professional anger burnt fiercely against the authors and instigators of this attack, and the scandal could not be concealed that Mr. Propert was stated to have backed these people in their attempt on Mr. Adams's honour or his pocket—for Mr. Maitland's letter shows clearly that they were speculating on a lucrative compromise—then Mr. Propert was startled from hi

seat behind the scene, and appeared on the stage to shield himself from that indignation. He addressed a letter to a friend, to be read at the meeting at Freemasons' Hall. He must blush now to remember that letter. This epistle, the only utterance which Mr. Propert has yet made, is remarkable for the most disingenuous suppression of a whole series of facts, while, with an unnecessary and unenviable adoption of solemn forms, he called Heaven to witness that he had not found a penny of the money for this trial.

Of course, that letter produced a great effect. It had the obviously intended result of leaving the impression that Mr. Propert had nothing to do with the case; but when subsequently it is proved that he had found money just previously —when it is shown that he had stated that the case should be tried if it cost him a thousand pounds—that he had been in intimate communication with these people throughout—that he spoke of referring them to his solicitor, and that his solicitor brought the action; and when Mr. Propert has nothing to say in answer to the accumulated testimony of Mr. Toynbee, Mr. Adams, and Mr. Maitland, then it is felt that the defence set up in that letter is of an odiously equivocating character, and that by writing it, and maintaining since an obstinate silence in the face of his accusers, Mr. Propert has done even more to lower his self-respect and to depreciate his claim to professional regard, than by any of his former acts. In these columns he has been brought face to face with public opinion, and has heard the very voice of his accusers. Mr. Adams has openly testified to the facts of which he has a knowledge; so has Mr. Maitland; and of course Mr. Toynbee's name has not been used without his permission. The position in which Mr. Propert stands is melancholy and degrading. He has not had the courage to face his accusers; he has not had the manliness to avow his deeds, nor the honour to make apology and reparation.

There are other considerations which arise out of these circumstances. Mr. Propert is the treasurer and avowed head of a great professional institution. One who stands in his present professional relations is not a fit person to hold that position. The prosperity of that institution depends in no small measure on the personal respect and cordiality felt towards its official representatives. The insult and the wrong which Mr. Propert has offered to his profession, the highly improper line of conduct which he has since pursued, the fact that he stands charged by Mr. Adams, Mr. Maitland, and Mr. Toynbee with acts most hurtful and disagreeable to his brethren and destructive of fraternal cordiality, wholly disqualify him from continuing in office under present circumstances. His presence at the festival, as the official exponent of the welfare of the College, must be most prejudicial to its interest; the fact that he presides at meetings of the Council will be most painful to many friends of the College. This is a grave matter for the consideration of the Council. It is one which we would suggest as such even to the singularly constituted mind of Mr. Propert himself. No more universal reprobation has ever been expressed than that of Mr. Propert's past act and present attitude. That feeling is not confined to any one class, but is universal throughout the profession. A man so fallen in esteem, so universally unpopular, who has not dared to answer the most serious charges publicly made, cannot with advantage to any charitable institution seek alms for it among those whom he has injured. It is impossible to speculate on what course Mr. Propert may pursue, for his conduct does not seem to be guided by ordinary rules. A man of delicacy and good feeling would, we think, retire from a position which he cannot hold without detriment to a charity. Some honorary connexion with an institution for which he has laboured so hard must, as a matter of propriety, be conceded; but it will not be well or decent that he should continue to seek even unselfish favours among a profession which he has outraged, and before which he is no longer an acceptable or fit advocate.

There is one other question that we commend to the notice of the Council of the Medical Benevolent College. Mr. Pike, who was, and we believe is, Mr. Propert's private solicitor, and who brought the action for Miss Russell, is also solicitor to the College. Now Messrs. Propert and Pike equally deny that he (Mr. Propert) found the money. It is perfectly apparent that Mrs. Russell had not a penny. It is, then, for the Council of the College to put to Mr. Pike pointedly the question which has already been asked of him by his professional journal, the *Law Times*—Did he bring this action against a medical man as a matter of speculation, hoping to pay himself out of the sum for which it might be compromised, or the damages, if awarded? if not, who was his principal? It is not fit that he should remain the legal officer of a medical corporation while the present mystery surrounds his share in these proceedings. The conduct of the case both by solicitor and counsel was sharply censured by the Chief Justice, and Mr. Pike ought to be called upon for explicit declaration on this head. The sudden intervention of a moneyed principal between Mr. Propert, Mr. Pike, and Mrs. Russell still requires a good deal of clear explanation. Up to a very late period the latter was begging for five pounds.

The Council owe it to the institution to adopt the measures necessary to clear its treasurer and solicitor, as far as they may be cleared, of complicity with the Russells. Mr. Propert's share, we fear, can no longer be doubted or explained away. It leaves him humiliated by his first error—by his false pride, which would not brook apology or reparation—and by the gross suppression of material facts which marked his public and solemn utterance in the matter.

SOUTH KENSINGTON ANIMAL PRODUCT AND FOOD COLLECTIONS.

MOST of our readers are aware that amongst the Science Collections at South Kensington are two which have a peculiar interest for the medical profession. These are the Animal Product and Food Collections. It may not be generally known that these collections are looked upon as a nuisance by the authorities at South Kensington, and that no provision is being made for their permanence in the new buildings at Brompton. The "boilers" are doomed, as well as the animal and food substances contained in them. A committee of the House of Commons recommended that the collection of animal products be sent to the British Museum; but that institution is already too full, and cannot accept the intended kindness. Just as appropriately might the mediæval pottery at South Kensington be sent to Jermyn-street. That the destruction of these collections is intended may be gathered from the fact that the authorities at South Kensington have taken the opportunity of Dr. Lankester's appointment as Coroner to abolish altogether the office of superintendent of these collections.

The system of depreciating Science and elevating Art has so long been pursued at South Kensington, that the time seems at last come when some inquiry should be made upon the subject. Thousands upon thousands have been spent upon what sound judges regard as altogether Art-antics; whilst no attempt has been made to develop and render useful the really valuable scientific collections. We called attention some time ago to the valuable lectures given by Dr. Lankester in connexion with the animal and food collections; but these were stopped in the most summary and insulting manner by their lordships the Committee of Council on Education, in whose name the gravest indignities have been perpetrated upon men of science throughout the whole department.

THE NEW ARMY MEDICAL WARRANT.

THE concessions which have been made by the recent Warrant,—in deference to the increasing agitation and discontent

existing among the medical officers of the army, reflected in our pages, and produced by the gradual withdrawal of their privileges,—amount to a restoration of some of the more important advantages which were bestowed by Lord Herbert's Warrant. This act of grace is in itself a matter of sincere congratulation, and is everywhere so accepted. But the tardiness which has marked its accomplishment, and the reluctance with which the authorities have allowed it to be wrung from them, effectually stifle those feelings of pleasant gratitude and good-will which on other occasions have been felt towards the authorities under whose name and seal such Warrants have been issued. But the present sop does not even suffice to relieve the irritation which exists, and by its bareness, not less than by the reluctance with which it has been granted, it has rather had the effect of demonstrating the palpable weakness of the cause partially surrendered, than of testifying a really good disposition towards the medical officers.

The privilege of presiding at mixed boards is directly rescinded; and this is indicative of sheer ill-will, and is a simple official act of rudeness. The only things restored are, the rank and the choice of quarters. The invidious order that medical officers shall not preside at committees, nor have the same voice in mess and band arrangements as any other officer of the same rank, marks the determination, on the part of the Duke of Cambridge, to uphold the haughty spirit of false superiority with which the combatant officers most in his favour are imbued, and in which he has given many proofs of sympathy. It is remarked as a fact worthy to be noted, that just as the colonel of the regiment to which the Duke was attached is now inspector of cavalry, as the regimental veterinary surgeon is superintending veterinary surgeon of the army, so the medical officer of the regiment is now Director of the Army Medical Department; but it is hoped that no feeling of personal subserviency to his Royal patron will prevent the medical head from representing that the grievances of the officers of his department are not sufficiently redressed by the recent measure. They have long urged their claim to equal privileges with combatant officers of the same relative rank in respect to band and mess arrangements, consideration at the messtable, mixed committees, and position in the "Army List." It is felt to be very unsatisfactory that at present the name of the surgeon is placed at the bottom of all lists; and, in fact, it will be observed that in the publication of the "Army List" the regimental medical officers, instead of being classified according to their relative rank, are placed at the end of the list of regimental officers, and no allusion is made to their relative rank. There is nothing to indicate their relative rank; and placed at the bottom of the list, below the quartermaster, the position of the medical officer is liable to serious misinterpretation. It was specially recommended by the Commissioners appointed in 1857 (see p. 72 of the Report), that the relative rank granted to medical officers should be duly stated, and that such relative rank should be bracketed in the list along with the ordinary designation of medical rank. This is an important point on which the regimental medical officers justly lay much stress, for much depends upon place in the "Army List." Formal representations have already been made on the subject; and it was hoped that the point would have been conceded. It will be necessary still to press the justice of this claim on the attention of the authorities.

MEDICAL SOCIETY OF LONDON.

MR. BRYANT'S SECOND LETTSOMIAN LECTURE.

THE lecturer, after having quoted a curious case of maldevelopment, in which there was an absence of fibula, calcis, cuboid, the four outer metatarsal and phalangeal bones, briefly touched upon the subject of orthopædic surgery, and then passed on to consider the differences which are to be observed between the diseases of the nervous system in the child and adult. He pointed out the anatomical differences in the crania at these different periods of life, and explained how that in the adult cranium the anatomical purposes are solely adapted for the *protection* of the *perfect* brain, whilst in the infant they are mainly adapted for the *growth* and *development* of the *perfecting* brain. He remarked upon the great sensitiveness of the child's brain to centric or eccentric impressions, as indicated by the fact that a child may die off-hand from simple concussion or from a convulsion, and no signs of organic disease will be detected after death. He pointed out also that tetanus is a more common result of lacerated wounds or compound fracture in children than in adults, and quoted cases to illustrate the point, adding that, as a consequence, so-called "conservative surgery" must be more cautiously carried out in these cases.

The *surgical affections of the respiratory organs in children* next claimed attention; and the subject of œdema of the larynx from the contact of boiling liquid received the first consideration. He dwelt upon the pathology of this complaint, and upon the urgency with which surgical interference is demanded. The antimonial treatment was spoken of with favour in the milder cases; but in the more severe, time was too precious to sanction its use: in these tracheotomy should be performed, and he gave five successful instances out of nine in which this treatment was carried out. He approved also of the suggestion which had been made of puncturing the œdematous larynx with a needle to relieve the obstruction, although he could not bring forward any evidence to favour the practice.

Foreign bodies in the air passages formed the next subject to which the lecturer drew attention; and he spoke strongly in favour of the necessity of an immediate operation for their removal. He gave cases proving that in a large proportion of such instances the removal of the foreign body may be anticipated and recovery follow; and observed, that in the majority of examples in which the foreign body is not expelled after the operation it will be found to be firmly impacted within the larynx. He then pointed out how this evil is to be remedied, and more particularly explained that the passage from below of a large catheter through the rima would almost to a certainty be followed by success. Cases were then quoted to illustrate this point. He spoke strongly in favour of the use of chloroform during the operation, the anæsthetic tending materially to prevent the spasm of the laryngeal muscles.

The subject of *injuries to the thorax* received a brief notice; and the lecturer pointed out that the most important difference which is to be found in these cases in the child and adult is shown by the fact, that in the former an injury to the chest may be followed by a laceration of the lung tissue without any associated fracture of the ribs taking place; and an example was quoted to illustrate the point.

The consideration of *nævi* next claimed attention, and their nature and development were explained. Their tendency also to a natural degeneration was not forgotten. Their different varieties were pointed out, and the special treatment which is required by each form.

In the digestive system, salivary fistulæ and sublingual cysts were illustrated by cases, and their appropriate treatment discussed. *Warty affections of the tongue* were then dwelt upon, and their different forms illustrated. Wounds also of this organ were briefly touched upon.

The subject of *polypus recti* was thoroughly illustrated, numerous cases being adduced and specimens exhibited. The symptoms by which this affection can be recognised were then detailed,—hæmorrhage from the bowel being the chief; this bleeding taking place either when the child is at stool or at independent periods. The only correct treatment was to be found in their removal, and this might generally be effected by the finger alone, the polypus being readily broken off in any effort to bring it down externally. If this measure should not succeed, the application of a ligature to the pedicle was recommended, and the subsequent division of the growth. Cases were quoted in which bleeding from the bowel had persisted for one and even two years, the true cause having been overlooked.

Prolapsus recti was next brought under notice, and it was pointed out that this affection is as a rule only the result of some other affection, disease of the urinary organs being the chief; and the lecturer dwelt upon the necessity of recognising this fact before any hopes of its cure could be entertained.

Hæmorrhoids in children were stated to be very rare, the majority of so-called cases being really instances of polypus recti. *Anal abscess* and *fistula* were shown also to be infrequent.

The *affections of the urino-genital organs of the child* were very fully illustrated, the lecturer pointing out that nearly every symptom of vesical disease may be produced by adhesions between the prepuce and the glans penis, with retained secretion from Tyson's glands. Every degree of irritability of the bladder, even to a hæmaturia, was shown to be the product of this simple affection, and cases illustrating the fact were quoted. In the treatment of these cases, circumcision was advised, and subsequent cleanliness recommended. The lecturer said he always felt disposed to look upon this simple affection as the cause of the symptoms of urinary irritation in the majority of cases which came before him; and in cases of suspected stone in the bladder this simple condition of the penis is the commonest cause.

Extravasation of urine as found in children, and *stone in the bladder*, next received attention.

EPITOME OF THE REGULATIONS ON POOR-LAW MEDICAL RELIEF, AS LAID BEFORE THE SELECT COMMITTEE.

MR. GRIFFIN has forwarded to us in a pamphlet the following epitome:—

Class of Persons to be Entitled to Medical Relief.

1. A quarterly list of all paupers in each medical district to be made out and given to the medical officer.

2. It shall be the duty of the medical officer to attend all persons on that list when sick, on the application of the pauper, or any other person on his behalf.

3. That it shall be the duty of the relieving officer, or, where there is no relieving officer living within one mile from the abode of the sick person, of the overseer, to give to a destitute person requiring medical relief an order on the medical officer of the district; but if the earnings of the entire family shall exceed 10*s.* per week (too low), then the order shall be given as a loan only, and if the earnings exceed 20*s.* a week, then the medical officer may, if he think fit, charge the patient for his attendance, and the order be void.

4. An order to continue in force until the ensuing quarter-day, should the illness continue so long, or, if granted within fourteen days prior to the end of a quarter, it is to continue in force until the next ensuing quarter-day.

5. Patients under treatment on one quarterly list, if placed on the next to be paid for as fresh patients.

6. A medical man attending a poor person not on the quarterly list, without an order, not to be required to repeat his attendance, if he so inform the patient, until an order be procured, but if he continues his attendance, and the guardians do not object to it at their next meeting, then the medical officer is to be remunerated as if an order had been obtained.

7. The duty of the guardians will be to examine the medical lists, and strike out all names improperly recorded, but the medical officer is nevertheless to be paid for his past attendance at half the amount of an ordinary case of illness. Cases of childbirth or operations to be paid for by the whole or part of a fee. The guardians may reimburse themselves by declaring the relief a loan.

8. When the guardians decide that a loan is to be enforced, it shall be the duty of the clerk to forward the amount to the overseer of the parish, who shall collect it with the poors'-rate, and if it be not paid, to summon the defaulter before the magistrates, as in the case of an unpaid poors'-rate. The magistrates to have power to enforce or remit the payment.

Election and Qualification of Medical Officers.

9. Medical officers to be registered at the time of election, and qualified in accordance with the order of the Poor-law Board, in force at the time of the election. If impracticable to obtain a person so qualified, then the guardians may employ, under certain conditions, a person not so qualified, but only until the end of the year, when the office shall be re-advertised as vacant, and a fresh election take place.

10. The Poor-law Board, under the advice of the General Council of Medical Education and Registration, within six months after passing this Bill, to issue an order declaring the requisite qualifications of a Poor-law medical officer, which order shall be revised from time to time, if deemed desirable.

11. Assistants of medical officers to be ineligible for office.

Permanency of Appointment.

12. A medical officer resident in, or within one mile of, the workhouse, district, parish, or school for which he has been, or shall be appointed, or may hereafter become so resident, shall be permanently appointed to all those parts of his district situated within six miles of his residence, subject, however, to Section 13, and correct fulfilment of his duties, &c.

Change in the Extent of a District.

13. Districts to be altered by the guardians, when deemed desirable, subject to the consent of the Poor-law Board, and to the proviso that the medical officer already in office shall be entitled to retain that portion of the district nearest his residence without a re-election.

Size of a District.

14. A medical officer not to have a district extending beyond six miles from his residence, or have more than 1,000 patients annually under his care, whom he is called upon to visit at their own houses, exceptions to this rule provided for.

Medical Remuneration.

15. A fixed salary, founded on a triennial calculation of the number of patients and the distance of the farthest inhabited house in the district.

The amount of payment to be not less than after the rate of 5*s.* per patient up to 300 in number, and 2*s.* per patient for all above that number, with an additional payment of 1*s.* per mile for each patient, if the farthest inhabited house in the district be one mile distant, and so on in proportion to the distance.

EXAMPLE.—A medical man has attended on an average during the last three years 250 patients per annum, and the farthest inhabited house in his district is distant over two and under three miles, his payment will be fixed for the next three years as follows:—

	£	s.	d.
250 patients at 5*s.* each	62	10	0
Mileage at 3*s.* each patient ...	37	10	0
Total	£100	0	0

SECOND EXAMPLE.—A medical man has attended on an average of the last three years 500 patients, at a similar distance (under three miles).

	£	s.	d.
300 patients at 5*s.* each	75	0	0
200 at 2*s.* each	20	0	0
Mileage at 3*s.* each patient ...	75	0	0
Total	£170	0	0

The salary of the medical officer of a workhouse, infirmary, lunatic asylum, or school-house, to be paid after the same manner, but instead of mileage he shall be paid 1*s.* for each attendance at the workhouse, if situated within one mile from his residence; if beyond that distance, an additional shilling per mile to be paid for each attendance.

Contracts now in existence to continue in force, if so desired by any of the present medical officers.

Fees.

16. A table of fees to be drawn up by the Poor-law Board, with the advice of the General Council of Medical Education and Registration. All Poor-law medical officers to be entitled to fees. Fees not to be compounded for, unless on an average of the number of cases occurring during the three preceding years. If a patient be sent to an hospital, the fee is then to be paid to the treasurer of the hospital.

17. In cases of sudden accident or emergency, any registered medical man rendering important services to be entitled to a reasonable fee.

Medical Relief Book.

18. The relieving officer to provide for the conveyance of the medical relief book to and from the board.

Dispensary Poor.

19. Dispensary poor not to be compelled to go beyond six miles to a dispensary for their medicines, or to visit the medical officer there, if there is a registered medical man living nearer who is willing to attend them on the terms of these regulations.

Salary of a Medical Officer Debarred Private Practice.

20. The salary of a medical officer, who is debarred private practice, to be fixed in accordance with Regulation 15.

Medical Extras.

21. Cod-liver oil, leeches, cotton-wool, bread, linseed-meal, quinine, and sarsaparilla to be found by the guardians.

Tolls.

22. The Poor-law medical officer, whilst on duty visiting pauper patients, to be free from tolls.

Assessed Taxes.

23. The Poor-law medical officer to be free of the taxes assessed on one horse, carriage, and man-servant.

Meat, Wine, &c.

24. The relieving officer and master of the workhouse to obey the directions of the medical officer in regard to diet for a sick patient, until ordered to the contrary by the board of guardians.

Wine, brandy, and gin to be kept at the workhouse, dispensary, or some other convenient place, and given out by the relieving officer, master of the workhouse, dispenser, or such other person as the guardians may direct.

All meat to be inspected by the relieving officer, or some other person to be named by the guardians, before given to the poor, and not to be given out for a longer period than three or four days at one time.

Medical Relief not to be a Disqualification.

25. Medical relief, if unaccompanied by other relief, not to be deemed parochial relief, &c.

Medical Disbursements whence Payable—Drugs.

26. Disbursements for medical relief to be paid in equal proportions out of the common fund of the union, and such moneys as may be provided by Parliament for the purpose. Poor-law Board to have the power to order the establishment of dispensaries, and, if they deem it expedient, provide drugs, and pay for them out of the moneys voted by Parliament towards medical disbursements. Guardians not carrying out this Act are not to participate in any Parliamentary grant.

Register of Diseases.

27. Relieving officer to affix a mark weekly, in red ink, against the names of all persons in the receipt of medical relief only.

Medical officers to give an account half-yearly to the clerk of the guardians of the number of deaths, number of cases of diphtheria, cholera, diarrhœa, continued fever, scarlet fever, measles, whooping-cough, small-pox, or any other disease which the Poor-law Board may deem it desirable to record.

Clerk of union to report these cases to the Poor-law Board. Poor-law Board to report them to Parliament.

Medical Secretary.

28. Poor-law Board to appoint a medical secretary, who shall be a registered medical man, and have been a Poor-law medical officer. His duty shall be to conduct the medical correspondence, prepare the medical report for Parliament, and adjudicate on all matters in reference to medical relief, subject to the confirmation of the Poor-law Board. His salary to be fixed by the Lord High Treasurer, or the Commissioners of the Treasury.

Officers of Health.

29. Where medical officers of health have not been appointed, the Poor-law medical officers shall be the medical officers of health for their respective districts, and receive such salaries from the Consolidated Fund or the poors'-rate as the Poor-law Board shall direct.

Superannuation Allowance.

30. On the resignation of a medical officer, after not less than ten years' service, from some infirmity of mind or body, which renders him incapable to discharge the duties of his office, the guardians shall pay him such a superannuation allowance as the Poor-law Board may direct, the said allowance to be not less in amount than one-third of the salary he was receiving at the time of his resignation. The allowance to be considered as a disbursement for medical relief.

Appointments Contrary to Regulation.

31. The Poor-law Board annually to lay before Parliament a list of all appointments made contrary to their rules and regulations, and state the reasons which have induced them to confirm the said appointments.

Duties of a Medical Officer.

32. The regulations are nearly similar to those now in force.

Vaccination Regulations.

33. These have not yet been laid before the Committee, but are published in the pamphlet headed "Evidence, 1861," copies of which have been forwarded to all subscribers to the Association since 1861, and new subscribers shall have copies, so far as those in hand will permit.

Correspondence.

"Audi alteram partem."

THE NEW ARMY MEDICAL WARRANT.

To the Editor of THE LANCET.

SIR,—The new Warrant, after all, leaves many evils unredressed. It is all very well and good that the medical officers should not be allowed to be presidents of courts-martial; but then comes the order that they must not be presidents of committees, courts of inquiry, boards of survey, &c.

Now, that word "committee" opens the door to any future amount of unpleasantness and snubbing. We do not ask for command of any kind, but we are justified in asking for as powerful a voice in the mess and band arrangements of a regiment as any other officer of the same rank.

We pay the same subscription as other officers; why, therefore, should we be debarred from all influence in a matter purely social and not military? If we are not allowed to preside at mess-committees, why are we forced to pay the same subscription as other officers? Moreover, on boards of survey—such as coals, wood, linen, clothes, and other matters issued to the troops—a medical officer is surely as good a judge as a captain, or an officer of any other rank. When the exercise of actual command of men is required we do not wish to interfere; but when it is merely the result of individual opinion of officers, without reference to the men, then it is we say that officers of all denominations should take precedence according to relative rank.

Although mention is made in the Warrant of light, fuel, servants, quarters, &c., not a word is said about forage—a serious omission, which will give rise to endless bickerings. The medicals may not always require to have horses, but it is an appanage of rank, and, as such, should not be withheld.

We are deeply indebted to you, Sir, who, to a great extent, replace Sidney Herbert in the desire to see justice done to us, and the valuable aid you have afforded.

I am, Sir, your obedient servant,

March, 1863. SURGEON-MAJOR.

VALUE OF ANTIMONY IN BRONCHITIS, ETC.

To the Editor of THE LANCET.

SIR,—We are indebted to Mr. Broke Gallwey for his successful case of tracheotomy, the particulars of which were given in your valuable journal of the 21st ult.; but when he says, "I consider we have so little proof of the beneficial tendency of loss of blood, of mercury, and of antimony in morbid conditions of the mucous membrane (aye, even of antimony in bronchitis), that I did not entertain the first of these at all in the sergeant's case, and only sanctioned the second, during the acute stage, in compliance with the orthodox notions of the day," I must wholly dissent from such an opinion with respect to antimony. Tartar emetic is one of the most powerful resources of the physician; its efficacy in inflammation of mucous membranes, and its pre-eminent efficacy in the treatment of croup and laryngitis, are facts as fully established as any facts in medicine—yes, as certainly as the value of bark in ague; and no wonder that a practitioner should be "at sea" who denies all this. There are the most weighty objections possible to such an opinion as Mr. Gallwey's on the use of "antimony in morbid conditions of the mucous membrane," because, denying the most certain facts, it tends to mystify plain matters, to lead young practitioners in a wrong direction, and to introduce doubt and uncertainty where there actually exists every reason for confidence and hope. Of course it would be an easy thing to establish my position by a reference to the writings of the most accomplished and experienced physicians of the age, but I have no wish to trespass so long on your pages. All I shall add, in conclusion, is, that had an emetic of tartarized antimony been given in this case at the onset, followed by free doses of that invaluable medicine, I cannot question that the patient would have been instantly relieved, and the progress of the case might have been very much more favourable. It is a sound and established principle in practical medicine that in

all acute or serious affections of the throat or windpipe an emetic is the very first means to be employed, because it is almost invariably followed by great relief.

I am, Sir, your obedient servant,

Epsom, April, 1863. THOS. J. GRAHAM, M.D.

THE LANCASHIRE DISTRESS MEDICAL FUND.

To the Editor of THE LANCET.

SIR,—I have directed Messrs. Arbuthnot and Co. to send you by this mail a bill of exchange for £40, which I will thank you to make use of as you think best in aid of the "Lancashire Distress Medical Fund," which you so nobly and liberally set on foot. I hope it may prove acceptable. I have collected it principally on the ground of the comfort and assistance such aid must afford to our hard-worked and much-tried medical brethren in the famine districts. Please to acknowledge it as follows:—

Collection in church at Ootacamund, by the Rev. W. R. Ottley, 170 rupees, or	£17	0	0
Collected from a few sympathizing friends, by Surgeon W. A. Leslie, 230 rupees, or	23	0	0
Total	£40	0	0

I would that we could do more to assist our brethren at home; but our service is not what it used to be, and it is with difficulty that we can save enough money to enable us to return to England after our seventeen years' service with anything like comfort.

Our fund (which was the great advantage of the service in former days) will be utterly unable to give off any extra annuities from time to time, as no new members are joining it. At present it takes about twenty-five years to get a small annuity, and about thirty-two years to get a large one. When the numbers given off are decreased,—as they must be if the income is decreased,—it is impossible to say how long it may take to get a large annuity; for my own part, I scarcely look forward to it at all.

I have troubled you with these remarks as you often kindly advocate our cause, and I dare say that from time to time you will continue to do so.—I am, Sir, your obedient servant,

Coonoor, Madras Presidency, Feb. 1863. WALTER A. LESLIE, Surgeon Madras Army, and Medical Officer, Coonoor, Nielgherry-hills.

*** Since the above letter was received, another bill of exchange for £9 has been forwarded to us from the same gentleman.

Parliamentary Intelligence.

HOUSE OF LORDS.

MARCH 29TH, 1863.

BIRTHS AND DEATHS REGISTRATION (IRELAND) BILL.

On the motion for the third reading of this Bill,

The Earl of BANDON proposed an amendment of which he had privately given notice to the noble earl opposite, the effect of which was to assimilate the machinery of registration in Ireland to that of England. It was said that if his amendment were carried the Bill would be lost, but he hoped their lordships would judge it upon its own merits.

The Earl of ST. GERMANS hoped that their lordships would not agree to the amendment.

The Earl of LEITRIM supported the amendment.

The Earl of DERBY thought that there might be an objection to limiting the choice of the guardians to dispensary surgeons, because in some cases, especially in large towns, those gentlemen might be too much occupied to be able efficiently to discharge the duties of the office of registrar. He would, however, suggest to his noble friend behind him that it would be as well he should not press his amendment, but that he should allow the Bill to pass as it had been agreed to in the House of Commons.

The amendment was then withdrawn, and the Bill passed.

HOUSE OF COMMONS.

MARCH 27TH, 1863.

THE CHATHAM MURDER.

Mr. BLAKE asked the Secretary of State for the Home Department whether, in the case of the convict Burton, now under sentence of death at Maidstone Gaol for the murder of a child at Chatham Lines, an application was not made at the trial for the examination of the prisoner by Dr. Forbes Winslow, or some other physician of experience in insanity, and refused by the judge; and whether, taking into consideration the fact of Burton's mother being confined in a lunatic asylum, and his brother not being of sound mind, it was his intention to order such an examination to be now made? He was informed that the prisoner's counsel applied to the judge to order that the evidence of eminent medical men should be procured to show whether, when the prisoner committed the act, he was labouring under insanity or not. Mr. Justice Wightman, however, stated that he had no funds at his disposal for such a purpose. He trusted that the right hon. gentleman would satisfy himself whether this unhappy man was insane or not.

Sir G. GREY was not aware that any application had been made to the judge of the nature described by the hon. member. The defence of the prisoner was his alleged insanity. Evidence was adduced on the subject, and the judge laid down the law in accordance with the highest legal authorities. The jury, after full and patient consideration, were of opinion that the prisoner was morally responsible for his actions. In answer to the second question, he had to state that no facts had come under his notice which would justify such an examination.

DEARTH OF ARMY SURGEONS.

OUR witty contemporary *Punch* pungently expresses the views which have been put forth in these columns, in the following words. We commend *Mr. Punch's* observations to the attention of medical students, of whom he has always been the friend:—

"TO MEDICAL GENTS.—Wanted, a considerable number of Clever Young Snobs to compete for the Commission of Surgeon in the Army, for which there is at present, and has been for some time, an extreme Scarcity of Eligible Candidates, owing to the circumstance that men of education and ability sufficient to qualify them for the office, refuse to accept it, unless upon the impossible condition of being treated as gentlemen. All applicants must be Fellows of the Royal College of Surgeons, and Doctors of Medicine who have received diplomas recognised under the Medical Registration Act. In addition to their professional qualifications, they must possess a capability of being continually and contentedly Snubbed, and patiently submitting to any amount of Insult. They will be required at the mess-table to occupy a position subordinate to that of every combatant officer, even the youngest Ensign, whose permission it will be necessary for them to ask for the purpose of giving the band or the attendants any kind of order. It will be necessary for them to be regardless of those petty annoyances unavoidably inflicted by junior officers on their inferiors in rank, but superiors in age and attainments. No Thin-Skinned Persons, endowed with any Self-Respect whatever, or animated in the least degree by the Feelings of a Gentleman, need apply. For further particulars inquiry may be made at Head Quarters.

"Horse Guards, March 25th, 1863. "BY ORDER."

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—At a general meeting of the Fellows held on the 30th ult., THOMAS WATSON, M.D. Cantab., was elected President of the College for the ensuing year.

At the same meeting, the following gentlemen, having undergone the necessary examination, were duly admitted Members of the College:—

Cracknell, Henry Hearce, M.B., King's College Hospital.
Sturges, Octavius, M.B., 35, Connaught-square.
Williams, Henry Llewellyn, M.D., 9, Leonard-place, Kensington.

The following gentlemen passed the Preliminary Examination in the subjects of General Education on the 28th ult.:—

Bradford, Robert Mark, Exeter.
Branson, Walter, Worthing.
Cheeseman, Henry, 3, Finsbury-square.
Churchill, Frederick, Buckham-terrace, Lambeth.
Elliott, Arthur Bowes, Richmond, Yorkshire.
Hay, Richard, Bridport, Dorset.
Smith, Walter, Ringwood, Hants.
Winslow Lyttleton Stewart, Caius College, Cambridge.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 26th ult.:—

Allen, James, Hale, near Liverpool.
Atkinson, Frederick Page, St. Thomas's Hospital.
Baker, Thomas, Birmingham.
Craister, Thomas Lawson, Leeds.
Hutchinson, Francis Blake, London.
Julian, John Page, Durham.
Lloyd, Samuel, Smithwick.
Russell, George Ireland, Gravesend.
Stone, Robert Sidney, Bath.
Ward, Henry Seckamp, Horncastle.
Wine, Henry Charles, Bristol.

TYPHUS FEVER AT PRESTON has greatly decreased. This is no doubt owing to the energetic labours of our medical brethren in the cause of health.

CHINA.—Dr. M'Gowan, who is well known in connexion with his Chinese and Japanese explorations, is about to proceed on an exploratory journey through the mountain regions of China, Cambodia, and Formosa.

THE KING OF THE BELGIANS has undergone another operation for stone. Unfortunately Dr. Langiewicz has succeeded in extracting only a small fragment, the principal calculus remaining.

WE are requested to state that it is Dr. Robert Meadows, and not Dr. Alfred Meadows of Cavendish-place, who is appointed on the medical staff of the Anglo-Chinese expedition.

COUNTY OF PERTH LUNATIC ASYLUM.—The new asylum buildings at Murthly are nearly completed, and are expected to be opened for the reception of patients before the close of the present year.

THE EDINBURGH ROYAL MEDICAL SOCIETY had their annual dinner on Wednesday the 25th ult., in the hall of the Royal Hotel, Princes-street. Dr. Gamgee, one of the Presidents of the Society, occupied the chair, and was supported by a large number of professional gentlemen and others.

IMPORTATION OF QUININE.—In 1838 our importation of foreign-made quinine, taken for home consumption, was 101,705 ounces, and in the five subsequent years it was only half of that quantity. In 1861 we imported 81,557 ounces, valued at £25,635, and exported 47,427 ounces.

MANCHESTER CLINICAL HOSPITAL.—At the late general meeting a Committee was appointed to provide increased accommodation for the number of patients. The proposal to erect a new hospital was favourably received, and subscriptions entered into to the amount of £500.

CONSUMPTION OF WINE BY PAUPER PATIENTS.—In 1862, 134 patients in the East London Union were supplied with wines and spirits by the order of the medical attendants, the quantity being 130½ gallons, at the cost of £140 12s. This evidences a wise economy on the part of the guardians.

ROYAL INFIRMARY FOR ASTHMA.—The new building will shortly be commenced. The contractors, Messrs. Brown and Robinson, have undertaken the erection at a cost of £2387. Of this sum £500 has been already raised, including a benefaction from St. Bartholomew's Hospital of the materials in the old erection, valued at £90.

IDIOTIC HUMAN BRAIN.—We learn that it is the intention of Mr. R. T. Gore, of Bath, to lay before the Anthropological Society of London on Tuesday, the 7th instant, evidence of the brain of a female microcephale, aged forty-two, of whom the brain weighed only 10 oz. 5 dr., a smaller weight than hitherto recorded.

MUSCULAR ELECTRICITY.—Ranke, the German physiologist, has published, amongst the results of his investigations into the phenomena of electric currents in the muscles, the fact that dead muscle is a much better conductor of electricity than the living muscle, because, as he judges, of the presence of certain products of decomposition which do not appear till after death.

IMPORTATION OF PERUVIAN BARK.—The average importation of Peruvian bark for five years ending 1840 was 280,000 lbs. In 1845, 5078 cwt. was received, of which 4100 cwt. was re-exported. In 1850 the imports had increased to 10,536 cwt., and from that period they gradually advanced to 27,598 cwt. in 1856, the largest quantity ever received. Since that time there has been a steady retrogression to 21,000 cwt. in 1857, 18,000 cwt. in 1858, and 9000 cwt. in 1860. In 1861 there was a partial recovery to 12,477 cwt., of the estimated value of £185,672.

GOVERNMENT GRANTS TO MEDICAL AND OTHER INSTITUTIONS.—In the House of Commons on Thursday week the following sums were voted:—£3752 for the inspection of lunatic asylums in Ireland; £48,511 for the General Register Offices in England, Scotland, and Ireland; £2093 for quarantine expenses. The following sums were voted for the Dublin medical charities:—£1600 for the Lock Hospital; £700 for the Rotunda Lying-in Hospital; £200 for the Coombe Lying-in Hospital; £1500 for the Cork-street Fever Hospital; £600 for the Meath Hospital; £100 for St. Mark's Ophthalmic Hospital; £1300 for Dr. Steevens's Hospital; and £245 for the Board of Superintendence and Dublin Hospitals.

COMPLIMENT TO A NAVAL SURGEON.—Staff-Surgeon R. T. C. Scott, of the *Royal Adelaide*, recently superseded on the expiration of the period of his service, was on Thursday last entertained at dinner by the officers on board, as an expression of their high regard for the faithful discharge of his duties for many years.

THE INCOME OF ST. BARTHOLOMEW'S HOSPITAL last year was £54,767, towards which only £379 was contributed in benefactions. The amount received from rents was £29,280, dividends on stock, £4870. The total outlay during the year was £40,546. It would appear that the funds of this royal hospital are judiciously managed.

SANITARY CONDITION OF THE CITY.—In the three months ending December, 1862, the births in the city of London declined from an average of 826 to 727, the deaths having increased from an average of 746 to 759. The deaths therefore have exceeded the births by 32. Excepting the cholera year of 1854, the deaths have never before exceeded the births. The increase in the number of fever cases is again a matter of comment. The number of cases among the poor amounted to 320, the average number being 183.

POISONOUS BALLET DRESSES.—It is stated that the first representation of a new piece has just been given at Hamburg, in which the female dancers appeared in green costumes to represent water-nymphs. The stuff of which these costumes were made contained such a quantity of arsenic that the needlewomen who made the dresses all fell ill, and the dancers were attacked with violent symptoms of poisoning whilst on the stage.

MONAGHAN PAUPER LUNATIC ASYLUM.—It is proposed to erect a series of buildings for a pauper lunatic asylum at Monaghan. There is to be a main building calculated to contain 220 to 230 inmates, and two detached cottages are likewise to be built to receive each thirty-five or forty, together with infirmary, house for medical superintendent, &c. It is intended to employ the inmates to a large extent in farming occupations, and for this purpose forty acres of land will be devoted.

HYDROPHOBIA.—During a series of experiments made by Professor Renault, and communicated to the Academy of Sciences, respecting the period required for the development of symptoms of hydrophobia, he caused 131 dogs to be either bitten by mad dogs, or inoculated with their saliva. Of these, 63 showed no symptoms during a period of four months, and were therefore considered free. Of the remaining 68, 31 became mad after the 40th day; 23 after the 45th; 10 after the 50th; 14 after the 55th; 12 after the 60th; 8 after the 65th; 7 after the 70th; 3 after the 80th, and 1 upon the 118th.

EXTRAORDINARY BIRTHS.—Last Wednesday week a poor woman in Waterford gave birth to four children, two boys and two girls. They all died two hours afterwards. On two previous occasions she gave birth to twins. Thus from the first birth to the last she bore eight children in two years and two months.

CAMBRIDGE UNIVERSITY MUSEUM.—The new museums and lecture rooms will be arranged about a quadrangular court, the building on the east side of which will be occupied by the Professor of Comparative Anatomy, and by the Museum of Zoology, in close proximity to the building at present occupied by anatomy, chemistry, and botany, which will be altered for the reception of human anatomy and chemistry only.

BLACK PERIOSTEUM OF FOWLS.—M. Flourens has exhibited to the Academy of Sciences the skeleton of a fowl, the periosteum of which was black. Six chickens, out of a brood of twelve, were stated to possess the same peculiarity. This is also the case with some species of fowl on the coast of the Gulf of Siam.

POLYTECHNIC INSTITUTION: DISTILLATION OF SEA WATER.—On Monday evening Dr. Normanby delivered a lecture on his mode of distilling water at sea. He impregnates the water at the moment of distillation with super-oxygenated hydrogen gas, and then removes the disagreeable odour and flavour by means of animal charcoal. The water thus becomes not only aërated, but perfectly sweet. Professor Pepper is entitled to the thanks of the community for the judicious manner in which he combines amusement with instruction in the institution of which he is the head.

THE ROYAL SOCIETY.—General Sabine, President of the Royal Society, held his first *conversazione* for the present season on Saturday evening last at Burlington-house. The reception-rooms were furnished for the occasion with interesting objects of science and art, among which the most attractive were Professor J. Clerk Maxwell's apparatus for viewing the mixed colours of the spectrum, and his dynamical top; Dr. B. G. Babington's morphometer, an instrument invented in Austria for the firing of mines by frictional electricity; Mr. Crooke's specimens of the newly-discovered metal thallium in its various forms; a portion of the Mediterranean cable, from a depth of seventy fathoms, between Sardinia and Africa, incrusted with corallines and other specimens of marine zoology, exhibited by Mr. Fleeming Jenkin, together with curious ova and moss-like vegetation from a thousand fathoms' depth; Dr. Cobbold's preparations, showing the important advantage which naturalists may find in solutions of magenta, for rendering visible minute anatomical details; Mr. Olley's brilliant chromophotographs; Mr. Frank Buckland's artificial breeding of fish, in full operation; a number of special relics and memorials of Linnæus, exhibited by the Linnæan Society; an elegant model of the shield ship designed by Captain Coles, and models of the double screw gunboats constructed by Messrs. Rennie for the service of the Spanish Government at the Philippines. The assemblage of visitors, which was numerous and animated, did not separate till a late hour.

THE LATE SIR BENJAMIN BRODIE.—The will of Sir Benjamin Collins Brodie, Bart., D.C.L., F.R.S., F.R.G.S., of Broome-park, Betchworth, near Reigate, Surrey, was proved in the London Court on the 11th ult., by his sons and executors, Sir Benjamin Collins Brodie, Bart., and the Rev. William Brodie, M.A. The personalty was sworn under £18,000. The testator executed his will in October, 1861, and two codicils in August and September last. To his son, now Sir Benj Collins Brodie, Bart., F.R.S., and to his issue, he has devised his freehold estates; but, on failure thereof, should the same descend to any of the testator's family, except his daughter, Maria Eliza Hoare, the name of "Brodie" is to be used, by Royal licence, with his family arms. To his eldest son he also leaves his estate at New Sarum. His estate in Surrey—subject to the payment of an annuity of £100, bequeathed by the testator to his niece, Blanche, the daughter of his brother, Mr. William Bird Brodie—is to be divided into three equal parts; one-third to his eldest son, one-third to his son William, and the remaining third to his daughter, Maria Eliza Hoare. The testator further bequeaths to his son William a legacy of £2500, and to his daughter, Mrs. Hoare, £500; appointing his son, Sir Benjamin, residuary legatee.—*Illustrated News.*

PERJURY BY A SURGEON.—At the assizes at Liverpool, on the 28th ult., Evan Thomas, a surgeon, of Manchester, was tried for perjury. The offence had been committed in a deposition made by the prisoner before the Manchester City Coroner, at an inquest held on the body of a widow named Bell. Mrs. Bell had come from Cockermouth, and was met by the prisoner at the railway-station at Manchester. He conducted her to the Cathedral Hotel, and spent a few minutes with her there. She was then very well. Next morning she was very unwell, and Thomas visited her. When he entered the room he locked the door, and shortly afterwards came out saying that Mrs. Bell was dead. At the inquest on the body he swore that he had not known her before, that she had a tumour in the womb, and that death had been caused by epilepsy. Her friends at Cockermouth subsequently caused an inquiry to be made, when it came out that Thomas had known and written to the deceased some months previously. Another post-mortem examination was held, when it was discovered that there was no tumour in the womb, that the deceased was pregnant, and that, although the appearances were not inconsistent with death from epilepsy, the prisoner had never examined the brain to ascertain if there were epileptic symptoms. The statement made by him previously was thus shown to be false, and he was indicted for perjury. He was found guilty, and sentenced to three months' imprisonment, the judge expressing his opinion that the prisoner had carried on an illicit amour with the deceased.

ROYAL COLLEGE OF SURGEONS.—The following address has just been forwarded to the Queen:—

"To the Queen's Most Excellent Majesty.—We, your Majesty's dutiful and loyal subjects, the President, Vice-Presidents, and Council of the Royal College of Surgeons of England, beg permission humbly to approach your Majesty to express our dutiful and heartfelt congratulations on the union of his Royal Highness the Prince of Wales with her Royal Highness the Princess Alexandra of Denmark.

"We fervently pray that this auspicious event may conduce to the personal felicity of your Majesty, and we feel satisfied that it will ensure the continuance of that high moral example of your Majesty's domestic life which has been of such infinite importance to the happiness and welfare of this country, and to its influence with the other nations of Europe.

"Given under our common seal, at the College, this 25th day of March, 1863.

"(Signed) JAMES LUKE, President."

TESTIMONIAL TO MR. P. HUMBLEY BANKS, M.R.C.S., AND HIS WIFE.—On the occasion of Mr. and Mrs. Banks leaving Essex to reside at Risely, Bedfordshire, they were presented, the former with a time-piece, and the latter with a silver salver. The inscription on the time-piece was as follows:—"Presented to Mr. P. H. Banks, M.R.C.S. and L.A.C., by a few friends, in token of their high esteem for his kind and energetic conduct in promoting the welfare of the inhabitants generally of this locality." The inscription on the salver was—"Presented to Mrs. P. H. Banks, with kindest wishes, by a few lady friends of Barking-road, Essex."

THE WHITWORTH FEVER HOSPITAL, DUBLIN.—The *Irish Times*, in reference to a recent allegation of the "uselessness" of the above hospital, by the writer of a letter signed "Medicus," says that at no period since its institution has it been so fully occupied or so much appreciated. The number of patients admitted was 112 in 1861, and 144 in 1862; the dispensary attendances amounted to 1000. The utility of the hospital is limited only by its extent and by its means.

INSANE POOR.—On the 1st of January, 1862, there were in England and Wales (not including a few parishes making no returns concerning their poor) 946,166 paupers chargeable to the Poor-rates, and of this number 34,271 were insane—namely, 22,960 lunatics and 11,311 idiots; in other words, 3·62 per cent. of the pauperism was ascribable to insanity, the lunatics being 2·43 per cent., and the idiots 1·19 per cent. 14,936 were males, 19,335 females. 18,318 were in county or borough lunatic asylums, 1193 in registered hospitals or licensed houses, 8003 in union or parish workhouses, 985 in lodgings or boarded out, and 3472 resided with relatives.

HEALTH OF LONDON DURING THE WEEK ENDING MARCH 28TH.—A high rate of mortality has prevailed in London during the last three weeks in March. In the second and third weeks the deaths were respectively 1561 and 1624; in the week that ended last Saturday they were 1594. There were 34 deaths from small-pox in the week. The deaths from measles rose to 57. Phthisis was fatal in the week in 171 cases; bronchitis was fatal in 176 cases; and pneumonia in 92 cases.

The births were—boys, 1055; girls, 1073.

Obituary.

JOHN SMITH SODEN, Esq., F.R.C.S.

IT is with regret we record the death of the above-named most estimable member of our profession, which event took place on Friday, the 20th ultimo, at his residence, Sydney-place, Bath, at the age of eighty-three. Having received a first-class elementary education, he was apprenticed to the late Mr. George Freer, of Birmingham, so well known as a most successful practitioner, and as the author of a work on Aneurism and some Diseases of the Arterial System; and it is no doubt owing to the interest created by this gentleman in the minds of his pupils for this particular subject that we are now

indebted for most valuable information on the large blood-vessels; inasmuch as Mr. Hodgson, (a fellow-apprentice of Mr. Soden,) who now so worthily occupies the vice-president's chair at the Royal College of Surgeons, obtained the Jacksonian prize for an elaborate essay on the Diseases of Arteries and Veins; and in like manner the subject of this notice enriched the "Medico-Chirurgical Transactions" with a very interesting paper on Inguinal Aneurism cured by tying the External Iliac Artery. Having completed his professional education, he became a member of the College of Surgeons on the 20th March, 1800. Soon afterwards he entered the army, and served with his regiment in Egypt, and was decorated with the medal. In 1810 he obtained the Jacksonian prize for his essay on the Bite of a Rabid Animal; soon after which he commenced private practice at Bath, and at once took a first position.

MEDICAL APPOINTMENTS.

WM. ADYE, M.D., has been elected Medical Officer and Public Vaccinator for District No. 2 of the Bradford-on-Avon Union, vice C. W. Baines, M.D., resigned.

J. CALLENDER, Surgeon, has been re-appointed Medical Officer and Public Vaccinator for the Eyton District of the Gateshead Union, Durham.

R. WISEMAN COOPER, M.R.C.S.E., has been elected Medical Officer and Public Vaccinator for the Silverstone District of the Towcester Union, Northamptonshire, vice J. Farmer, M.R.C.S.E., resigned.

J. FAWTHROP, L.S.A., has been re-appointed Medical Officer for the Clayton District and the Workhouse of the North Bierley Union, Yorkshire.

R. FIELD, M.R.C.S.E., has been re-appointed Medical Officer for the Tong District of the North Bierley Union.

W. C. MACINTOSH, M.D., Assistant-Physician of Murray's Royal Asylum, Perth, has been elected Medical Superintendent of the new County Lunatic Asylum at Murthly.

A. H. MARKS, M.D., has been elected Medical Officer and Public Vaccinator for the Shinrone Dispensary District of the Roscrea Union, vice Andrew M'Arthur, L.A.H. Dublin, deceased.

W. G. MAY, L.R.C.S.Ed., has been elected Medical Officer and Public Vaccinator for the Kiltormer Dispensary District of the Ballinasloe Union, Co. Galway, vice J. Pelly, L.R.C.S.I., appointed to the Eyrecourt Dispensary District of the Portumna Union.

R. L. MIDDLEMIST, M.R.C.S.E., of Great Coram-street, has been appointed Surgeon to the St. Pancras and Northern Dispensary, Euston-road, vice Francis Mason, F.R.C.S.E., Assistant-Surgeon to King's College Hospital, resigned.

H. G. STUBBEY, L.R.C.P.Ed., has been re-appointed Medical Officer for No. 2 B District of the Wisbeach Union.

MILITARY AND NAVAL MEDICAL APPOINTMENTS.

W. AITKEN, M.D., Assist.-Surg. Madras Service, has been promoted to Surgeon in succession to Linton, retired.

R. A. BARKER, Bengal Service, has been appointed Medical Office of Cachar.

T. W. BULLOCK, M.R.C.S.E., has been appointed Surgeon to the Warwickshire Yeomanry Cavalry, vice Hiron, resigned.

R. CHANDRA CHANDRA, M.R.C.S.E., Indian Service, Assist.-Surgeon Kamroop Regiment, has been directed to afford medical aid to Detachments of the 21st and 29th Native Infantry, consequent on the departure of Surgeon-Major J. Jowett.

T. E. CHARLES, M.D., Assist.-Surg. Indian Service, has been directed to afford medical aid to the 40th Native Infantry, as a temporary arrangement.

W. CREAGH, Assist.-Surg. H Battery 14th Brigade Royal Artillery Indian Service, has been directed to afford medical aid to the Division and Brigade Staff of the Station at Benares.

J. J. D'ALTERA, M.R.C.S.E., Assist.-Surgeon F Battery 14th Brigade Royal Artillery Indian Service, has been directed to take medical charge of the 16th Brigade, in addition to his other duties.

J. G. DAVIDSON, Staff Assist.-Surgeon attached to the 52nd Regt., has been directed to take medical charge of the 4th Battery 16th Brigade Royal Artillery at Hazarebagh.

J. DORWARD, Surg.-Major Madras Service, Acting Deputy Inspector-General of Hospitals, has been promoted to Deputy Inspector-General of Hospitals.

N. FFOLLIOTT, L.K.Q.C.P.I., Staff Assist.-Surg., has been directed to assume medical charge of D Battery 19th Brigade Royal Artillery at Ferozepore.

E. A. FITZGERALD, Assist. Surg. Indian Service, doing duty with the Artillery Division, has been directed to assume medical charge of the 1st Native Infantry, vice Assist.-Surg. R. Adams, M.D.; and he has passed his examination in Hindustanee.

P. G. FITZGERALD, M.D., Assist.-Surg. Madras Service, has been promoted to Surgeon in succession to Forbes, retired.

G. GRANT, Indian Service, officiating Civil Assist.-Surg., has been appointed to medical charge of a Detachment of the 3rd Bengal Cavalry, in addition to his other duties.

W. H. HARRIS, M.D., 2nd Class Assist.-Surg. Madras Service, has attained the position of 1st Class Assist.-Surg.

T. WILLIAMS HUGHES, M.R.C.S.E., Assist.-Surg. R.N. Nov. 6th, 1856, has been appointed to the "Archer."

W. JOHNSTON, M.D., Surg.-Major Madras Service, doing duty with the 17th Brigade Royal Artillery, has been directed to do duty with the 3rd Royal Horse Brigade at Bangalore, vice Rogers, appointed Acting Garrison Surgeon.

W. H. LESLIE, M.B., Assist.-Surg. 48th Foot, has passed his examination in Hindustanee, at Lucknow.

C. CLAVER LINTON, M.R.C.S.E., Deputy Inspector-General of Hospitals Madras Service, has retired from the service on the pension of £500 per annum.

OWEN JEFFREIS LLEWELLYN, Surg. R.N. May 23rd, 1861, has been appointed to the "Archer."

G. MACKAY, M.D., Surg. Madras Service, from the 44th Native Infantry, to do duty with the 17th Brigade Royal Artillery until further orders.

J. T. MAULE, Deputy Inspector-General of Hospitals Madras Service, has been removed from the Nagpore Force to Hydrabad Subsidiary Force.

J. E. MAYER, Surg.-Major Madras Service, has been promoted to Deputy Inspector-General of Hospitals, and posted to the Nagpore Force, but to continue to discharge his duties as Professor of Chemistry, Chemical Examiner, and Medical Storekeeper, until relieved, or until further orders, and to act as Principal of the Medical College, Madras, during the employment of Surg.-Major Shaw on other duty, or until further orders.

J. MILLER, M.D., Assist.-Surg. Madras Service, from doing duty with the 21st Native Infantry, has been posted to do duty with the 44th Native Infantry.

T. C. MORGAN, Staff Assist.-Surg., to do duty with the 1st Dragoon Guards at Bangalore.

J. H. ORR, C.B., M.D., Surg.-Major Madras Service, Garrison Surgeon at Fort St. George, has been appointed to act as Deputy Inspector-General of Hospitals in the Nagpore Force during the employment of Dr. Mayer on other duty, or until further orders.

C. PATERSON, M.D., Deputy Inspector-General of Hospitals Madras Service, has been appointed to act as Inspector-General of Hospitals during the absence, on leave, of Dr. D. Macpherson, or until further orders.

M. J. S. PERREAU, M.R.C.S.E., Assist.-Surgeon Indian Service, has been appointed to D Battery 5th Royal Horse Brigade, vice Assist.-Surgeon J. Browne, appointed to the Allahabad General Hospital.

M. ROGERS, Surg.-Major Madras Service, has been appointed to act as Garrison Surgeon, Fort St. George, during the employment of Dr. Orr on other duty, or until further orders.

R. R. SCOTT, Assist.-Surg., has been appointed to medical charge of the Depôt of H.M.'s Troops at Chinsurah, vice Assist.-Surg. Jukson, 80th Foot.

J. SHAW, F.R.C.S.E., Surg.-Major, Superintendent of the Eye Infirmary, Professor of Midwifery and Diseases of the Eye, and Principal of the Medical College, Madras, has been appointed to act, until further orders, as Deputy Inspector-General of Hospitals in the Southern Division, during Dr. Paterson's absence on other duty.

T. SHERBY, M.R.C.S.E., Assist.-Surg. 6th Punjaub Infantry, has been transferred to the medical charge of the 5th Punjaub Cavalry, during the absence on furlough of Assist.-Surg. Thorn, or until further orders.

G. SMITH, M.D., has been appointed to act as Superintendent of the Eye Infirmary, and Professor of Midwifery and Diseases of the Eye, Madras, during the absence of Surg.-Major Shaw on other duty, or until further orders.

G. S. SUTHERLAND, M.D., Assist.-Surg. Indian Service, has been appointed to the medical charge of the Station of Nynee-Tall, vice Assist.-Surgeon R. Moir, M.D.

A. M. TIPPETTS, Assist.-Surg. 33th Foot, has been appointed to the medical charge of the Staff at Fyzabad, and a Detachment of the 8th Bengal Cavalry, vice Assist.-Surg. J. C. Shaw, who has left the Station with his Regiment, and to afford medical aid to the 9th Native Infantry, in addition to his other duties, vice Surg. T. Hastings.

Births, Marriages, and Deaths.

BIRTHS.

On the 23rd of Feb., at Bombay, the wife of C. S. Valentine, Medical Missionary.

On the 5th ult., at Toronto, the wife of Dr. King, of a daughter.

On the 6th ult., at Montreal, Canada East, the wife of J. A. Sewell, M.D., of the Indian Army, of a daughter.

On the 12th ult., the wife of J. W. Lane, M.D., of Newtown-Limavady, of a daughter.

On the 22nd ult., at Dalmellington, Ayrshire, the wife of Dr. Allan, of a son.

On the 22nd ult., at Mentone, near Nice, the wife of J. Lewis Siordet, M.B., of a daughter.

On the 24th ult., at Pitcullen-bank, Perth, the wife of W. Lauder Lindsay, M.D., of a daughter.

On the 25th ult., at South-mall, Cork, the wife of R. Callaghan, M.D., of a son.

On the 25th ult., at Upper Leeson-street, Dublin, the wife of W. Johnstone Fyffe, M.D., Surgeon 5th Dragoon Guards, of a son.

On the 26th ult., at Ealing, the wife of T. Lukyn, Dentist, of a son.

On the 27th ult., at Bellevue-terrace, Edinburgh, the wife of S. Stacey Skipton, M.D., of the 79th Highlanders, of a son.

On the 28th ult., at Hampstead, the wife of H. Cooper Rose, M.D., of a son.

On the 29th ult., at Crockerstown, Cardiff, the wife of F. Pearse, L.R.C.P.Ed., of a son.

MARRIAGES.

On the 7th of Jan., at Vizipagatam, T. Quinn, Esq., of the Medical Department, to Mary Louisa, eldest daughter of W. S. Farley, Esq.

On the 19th ult., at Leghorn, W. Macnamara, L.R.C.S.I., Assist.-Surg. 4th Dragoon Guards, to Catharina Amelia, eldest daughter of Capt. Elphinstone, R.N., of Livonia, Sidmouth.

On the 26th ult., at Manchester Cathedral, P. Hulme Hill, L.F.P.S. Glas., of Barton House, Openshaw, Manchester, to Elizabeth Harriet, youngest daughter of W. Gibbon Newton, Esq.

DEATHS.

Lately, Andrew M'Arthur, L.A.H. Dublin, of Shinrone, King's County.

On the 2nd of Feb., at Ningpo, China, Wm. Parker, M.D., of the London Mission.

On the 13th ult., at Aylton, near Ledbury, W. H. Brydges, Surgeon, formerly of Ledbury, aged 63.

On the 19th ult., at Langlands-place, Dumfries, Jas. H. Martin, Student of Medicine.

On the 20th ult., at Bradford, Yorkshire, D. Kay, M.D., aged 46.

On the 21st ult., at Lawrence-street, Drogheda, T. T. Fogarty, M.D., J.P.

On the 24th ult., at Bath-place, Ayr, W. Hutcheson, M.D., aged 56.

On the 25th ult., at Ipswich, H. E. Martin, M.R.C.S.E., late of Brighton, aged 45.

On the 26th ult., T. F. Brownhill, F.R.C.S.E., of the Crescent, Salford, Manchester, aged 51.

On the 27th ult., at Tunbridge, C. Caswall, M.R.C.S.E., aged 58.

Medical Diary of the Week.

MONDAY, APRIL 6	LOCK HOSPITAL, Dean-street, Soho.—Clinical Demonstrations and Operations, 1 P.M. ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.—Operations, 1½ P.M. METROPOLITAN FREE HOSPITAL. — Operations, 2 P.M. ROYAL INSTITUTION. — 3 P.M. General Monthly Meeting. EPIDEMIOLOGICAL SOCIETY.—8 P.M. Dr. S. Hall, of Hobart Town, "On the Epidemic Diseases of Tasmania." MEDICAL SOCIETY OF LONDON.—8½ P.M. Clinical Discussion.
TUESDAY, APRIL 7	GUY'S HOSPITAL.—Operations, 1½ P.M. WESTMINSTER HOSPITAL.—Operations, 2 P.M. ANTHROPOLOGICAL SOCIETY OF LONDON.—7½ P.M. Mr. R. T. Gore, "On the Brain of a Microcephalic Female Idiot."—Dr. Julius Schvarez, "On Permanence of Type." PATHOLOGICAL SOCIETY OF LONDON.—8 P.M.
WEDNESDAY, APRIL 8	MIDDLESEX HOSPITAL.—Operations, 1 P.M. ST. MARY'S HOSPITAL.—Operations, 1 P.M. UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M. HUNTERIAN SOCIETY. — 8 P.M. Dr. Fowler, "On a Case of Laceration of the Vagina during Labour: a Medico-Legal Question."
THURSDAY, APRIL 9	ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 1 P.M. LONDON HOSPITAL.—Operations, 1½ P.M. ROYAL FREE HOSPITAL.—Operations, 1½ P.M. GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M. LONDON SURGICAL HOME.—Operations, 2 P.M. WEST LONDON HOSPITAL.—Operations, 2 P.M. ROYAL ORTHOPÆDIC HOSPITAL. — Operations, 2 P.M.
FRIDAY, APRIL 10	WESTMINSTER OPHTHALMIC HOSPITAL. — Operations, 1½ P.M.
SATURDAY, APRIL 11	ST. THOMAS'S HOSPITAL.—Operations, 1 P.M. ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M. KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M. CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

To Correspondents.

M. A. B.—Baking powders consist usually of carbonate of soda and tartaric acid, with a little rice or other flour. When mixed with water, as occurs when pastry is made, carbonic acid is liberated, and tartrate of soda formed. They are used chiefly to render pastry light, and do not generally contain any ingredients of an injurious character, although, of course, they are in themselves non-nutritious. Egg powders are more objectionable, because sometimes coloured with chromate of lead, and also for the reason that they are substituted for eggs, although not possessing any of their nutritive properties.

Omicron.—"Tænia solium" is the common tapeworm of this country; but tænia medio-canellata is occasionally met with. We have known it to occur at five years of age, and "tænia solium" under two years. "Bothriocephalus latus" is the tapeworm of Russia, &c.

Ignoramus, (Hounslow.)—He can do so by courtesy, and probably by law.

MR. PRATT'S LITHOTRITY FORCEPS.

To the Editor of THE LANCET.

SIR,—In your last impression there are two letters by instrument-makers, referring to a "New Lithotrity Forceps" described in a former number as having been made by me for Mr. Fergusson, the Surgeon to King's College Hospital. These gentlemen dispute the claim to my novelty. There is no doubt that a somewhat similar instrument has been made for removing calculi or fragments from the male urethra, but it does not appear to have been generally known, and to have fallen into disuse. Having been an instrument-maker for five-and-twenty years without seeing it, and having a workman in my employ of nearly forty years' experience, to whom the instrument was entirely new, I must plead that as some excuse for believing in its novelty.

As no claim was set up for novelty of *construction*, only for application to the purposes named, and distinctly so stated in your report, I think it would have shown better taste in those gentlemen who claim the whole merit of the instrument to have referred to some published report before writing in a tone of such great surprise. Otherwise their assertion loses much of its value.

The eminent surgeons to whom I have had the honour of submitting the instrument for approval unanimously concurred in the *novelty of application*, and in the promise of its utility. In the hands of Mr. Fergusson it has been eminently successful. The surgeons referred to are those of King's College, Middlesex, Westminster, Colchester, and Ipswich Hospitals, &c.

Believing I have thus shown some grounds for introducing what is likely to prove a useful instrument, I must leave it for surgeons to determine on the priority of use for the purposes stated.

I remain, Sir, yours respectfully,

Oxford-street, March, 1863. J. F. PRATT.

A Disputed Reader.—Whether the article referred to was paid for as an advertisement or not, we are unable to say. It is not uncommon with a low class of periodicals to insert puffs, whether they be "leaders" or "paragraphs," for a "consideration." The inferior medical prints are no exception to this rule. It is to be regretted that the independence of the press should be compromised by such conduct. In the present instance, however, it is difficult to suppose that so extraordinary a mode of puffing could be attended with the result desired.

If *Mr. Edward Ingram* will send us his address, he shall receive a private letter.

HOSPITAL PRECEDENCE.

To the Editor of THE LANCET.

SIR,—As your remarks on the above subject evidently refer to the election of Mr. Knaggs and myself as surgeons to the Huddersfield Infirmary, and may be brought forward at the monthly Board meeting, which is to be held on be brought forward at the monthly Board meeting, which is to be held on Easter Monday, the 6th April, I think it fair to acquaint you with other circumstances which, in my opinion, justify the course I took at the declaration of the poll, on which occasion the President (a lawyer) leaned to my side, but did not put the question of seniority to the meeting, as I intended, passing it over as a matter for the medical staff themselves to decide, which, of course, they decline to do. Neither Mr. Knaggs nor any of his friends said a word at that time in opposition to my claim as the senior both by diploma and age.

Now, it so happens that nearly ten years ago a double election occurred at the same infirmary, and the senior candidate had the precedence awarded to him by the Board, although the junior had given in a larger number of proxy votes, at which point the poll ceased in consequence of the third candidate retiring. The rules of the infirmary are silent on the question, and I rest my claim upon the following grounds:—

1st. The above-mentioned precedent.

2nd. I was proposed first, elected at the self-same time, and was allowed precedence in returning thanks for my election.

3rd. Being senior out of the infirmary, why should any anomaly exist as to our relative positions within and without the walls, especially as we received our appointments together?

4th. The way in which Mr. Knaggs' majority has been obtained will not bear criticism; and were such a mode of proceeding to be extended to five candidates (the number on the late occasion) and their friends, the Governors would wish they had no votes. He put forth a circular to the Governors, intimating that there was likely to be a vacancy six months before its occurrence; canvassed on the strength of that circular, and continued to do so after he was warned by Mr. Tatham (the then holder of the appointment) that he did not intend to resign; and that Mr. Knaggs' course was most unfair to him and to probable candidates.

You say the case may be argued that "had there been one vacancy and two candidates, B. would not have been elected." To this I demur in the present instance. My standing in the town and neighbourhood, my testimonials, my early service in the infirmary (being the only home-pupil that has settled here), &c., would have placed me at the head of the poll with anything like fair play—aye, even with all Mr. Knaggs' forestalling, for he only obtained my second votes under the assurance that I was safe. Not content, however, with his long anterior canvass, he issued a circular, which was in the hands of the Governors two days before the resignations, calling upon the Governors for their votes promised five or six months ago, and for the distribution of which circular he had to apologise in the newspapers. Some returned this circular, others put it in the fire; but many ladies and friends of mine and of other candidates, when called upon to fulfil a promise which this circular asserted had been given to him so many months ago, filled up a proxy unwillingly.

In conclusion (apart from Mr. Knaggs' conduct in the election), I feel that, a similar case having been decided by the Board of the institution, Mr. Knaggs might have left this also in their hands; but as he has thought fit to trouble you with it, you ought to have both sides of the question. In my own opinion, when two are elected together, the rule which you say "obtains at some hospitals of giving precedence to the senior one" should be acted upon in every case, and thereby save great annoyance to those who do not like to see a junior placed above them, especially by such an electioneering dodge as the one lately practised in Huddersfield.

Any opinion you may be disposed to give on the whole case in next Saturday's "Notices to Correspondents," would no doubt have its influence at the Infirmary Board meeting on Monday next.

I am, Sir, your obedient servant,

Huddersfield, March, 1863. GEO. W. RHODES, M.R.C.S.

*** The questions put to us made no reference to what may be regarded as the rule of the hospital, "a similar case having been decided by the Board of the institution." Under these circumstances, the whole complexion of the case is changed. The rule should be observed, or, at all events, the matter should be left in the hands of the Board of Governors.—ED. L.

A. B. C.—1. There is no direct remedy; but complaint should be made to the Poor-law Board. — 2. There is no law to prevent an unqualified person vaccinating.

N. K., a Constant Subscriber.—1. To the Turkish Ambassador.—2. There is no one authorised to treat here.

X. Y. Z.—He would be eligible for the appointment.

Student.—Ægle marmelos is the name of the plant yielding Indian bael. It is one of the Aurantiaceæ. It is by no means a disagreeable remedy.

WHAT IS THE QUALIFICATION OF A PHYSICIAN?

To the Editor of THE LANCET.

SIR,—From your advertising columns of Saturday last, it appears that physicians are wanted at the Chelsea and Finsbury Dispensaries, Members of the Royal College of Physicians alone being eligible.

In these times I maintain that no such absurd and narrow-minded prejudices should exist as those which have led to the sanction of such restrictions. The best men are certainly not obtainable in this way. The best man, minus £30, (the College fee,) is rejected; the worst man, plus £30, is elected.

Every registered physician is surely competent to fulfil the necessary duties of a dispensary; and I have yet to learn that the mere fact of having passed an examination at the College of Physicians can have so improved a man's intellect as to render him superior to all the graduates of a University.

I am, Sir, yours, &c.,

London, March, 1863. ONE OF THE IGNORANT.

R. L. (North.)—1. Podophyllin is now in very general use. It may be given in one-grain doses, combined with benbane. If more decided effect than usual be desired, two grains of rhubarb may be combined with it.—2. We have no personal experience of the value of the "Sarracenia purpurea."

A MEDICAL UNIVERSITY OF GREAT BRITAIN AND IRELAND.

To the Editor of THE LANCET.

SIR,—It must appear to the public, as well as to ourselves, an incomprehensible fact that to become an ordinary medical practitioner it is necessary that a gentleman hold two diplomas—nay, very often it appears desirable that he hold three. We obtain our "College and Hall," and then, stimulated by facts or remarks of one kind or another, we "go in" for a M.D. degree. The lay public cannot, or will not, give themselves the trouble to ascertain the different values of degrees and licenses, and are content to know that a qualification exists; and until some friend calls the attention of an individual to the fact that his medical attendant is not "doctor," but only surgeon or apothecary, such individual is content; but after this his confidence is shaken, not perhaps only in the one, but in all, and he cannot rest content with any.

I cannot trespass on your space to point out many reasons of perhaps equal importance with this for the establishment of an institution which might be called "The Medical University of Great Britain and Ireland." Without wishing to injure the tender feelings of Universities, Colleges and Halls, I venture to say that one of the principal objections which could be urged against the formation of such an institution would be the difficulty of adjusting the money matters connected with each licensing body. I propose that each of those (nineteen in number, I think) should send one or more members to a Congress, the number of members which each is to send to be regulated by the amount of income derived from the issue of medical licenses by each, such amount to be ascertained by an average struck for the last ten years. For the sake of example, say the income of the Royal College of Surgeons of London would be £5000; that of the University of St. Andrews, £1000; the Apothecaries' Hall of Ireland, £300. Then let the College send five members; the University, one; and the Hall, one. This Congress to form or to appoint Examiners, who are to meet in London, Dublin, and Edinburgh, and such other large cities as may be deemed convenient, for examining candidates, and to have power to grant a degree in Medicine and Surgery, which might be called "Doctor in Medicine and Surgery," and would entitle its holder to practise every branch and office of his profession. No one to practise without this University license, the present licentiates and holders of degrees and diplomas excepted; but anyone now holding both qualifications might be made a member of the University without payment of fee or undergoing examination. It would be necessary, too, to consider the claims of present medical students. Should it be considered advisable, the University might issue two degrees, one inferior to the other; the superior to be obtained by superior answering, or after a second examination after the candidate has practised five or more years upon the first. The University to register and remove from register; to supervise and issue from time to time a "British Pharmacopœia," for which purpose the Pharmaceutical Society might be consulted. The fees to be in amount about equal to what one now pays for the two highest qualifications, say about fifty guineas, and the annual income produced by the issue of these to be distributed in the ascertained proportions to each of the present licensing bodies. The Examiners to be paid by annual incomes, not by diploma fees.

As such an institution would be created for the public good, the public should contribute largely to its foundation.

I have written as briefly as I could upon the subject. Very much more, indeed, might be urged in favour of it; but I feel that I must have already exceeded that space in THE LANCET which, should you consider this communication of sufficient value and interest, would be likely to be allotted to it.

I remain, Sir, yours, &c.,

March, 1863. W. H. CECIL TREHER, M.D.

Ignoramus.—It is the teaching of a certain school of pathologists that in cases of severe burns, ulceration of the duodenum often occurs in the later stages, accompanied by obstinate diarrhœa and rapid emaciation. Mr. Adams, an American army surgeon, has lately stated that like pathological conditions occur in severe frost-bites.

TWIN BIRTH WITH PLACENTA PRÆVIA.

To the Editor of THE LANCET.

SIR,—In his last communication, Mr. Taylor has misquoted me by enumerating "removal of the placenta" as one of the conditions favourable for turning; and as regards his assertion, that the dread of a woman sinking undelivered is altogether ideal, I distinctly recollect hearing, several years since, of a case of unavoidable hæmorrhage, in which such an event occurred to an old and experienced practitioner in this locality.

Of course there can be no doubt the experience of Drs. Simpson and Barnes fully justifies them in saying that on the removal of the placenta hæmorrhage ceases; but at present, in the absence of the recorded opinions of many other equally eminent accoucheurs, with my own unfortunate case, to the contrary, and until general observation confirms the statement, it would be illogical and unsafe to lay it down as an established rule for practice, and I humbly protest against any such assumption.

Speaking personally, condemned as my line of treatment is by Mr. Taylor, it cannot but be highly satisfactory to me to find it meets with the approval of so distinguished a member of the profession as the Vice-President of the Obstetrical Society, Dr. Uvedale West, with whose opinions, as expressed in the number of your journal for March 21st, doubtless many others will coincide.

Will you allow me further to say that in these and somewhat similar cases there may, I think, be a cause of death to which allusion has not hitherto been made, but of which several instances are recorded in THE LANCET, and, if I mistake not, the sudden decease of the Duchess de Nemours was attributed to the circumstance—viz., "the entrance of air into the uterine sinuses." I think it highly probable that in my twin case, from the gurgling sound that was heard, followed by sudden collapse and rapid sinking, it may have caused the fatal termination.

The concluding paragraph in Mr. Taylor's letter requires a brief notice, inasmuch as it is not in good taste, and may also be the means of deterring some people from publishing unsuccessful cases—a practice, I conceive, fraught with benefit, and in fact a point of duty to the profession. As your correspondent truly says, these *are* days of medical persecution; but in how many instances is not this owing to the readiness—I fear I may say eagerness—displayed by some medical practitioners in giving evidence against their professional brethren: a deplorable fact, and one almost unheard-of in the other liberal professions. I am, Sir, your obedient servant,

Crowle, March, 1863. HENRY W. ELLIS, L.R.C.P. Ed.

F. B.—Cholesterine, the fatty matter of bile, has been found to exist in various vegetable substances by M. Boucke. It is stated to be present most abundantly in peas, is met with in several species of grain, and exists in the oil of the olive.

THE Report of the Arbitrators in reference to the charge of plagiarism advanced by Dr. Mayne in his preface to his "Medical Vocabulary" against Dr. Fowler arrived too late for insertion this week.

THE WRONGS OF ARMY MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—In your number of the 28th instant, in the article on "The Wrongs of Army Medical Officers," you have in the last paragraph, when alluding to the amended Warrant of the 7th March, apparently fallen into a mistake.

Under no circumstances (as far as I am aware) has any medical officer sat, or desired to sit, as *President* of a Court-Martial. The famous Warrant of October 1st, 1858, which so much improved our then status, specially provided against this; so that in the amended one of 1862 no change on this had taken place.

Again, under no circumstances could any medical officer of any rank expect regimental or garrison guards to turn out to him (this, too, had been provided for in par. 23 of the Warrant of 1858); but the compliment of presenting arms by individual sentries continues in force now, as it has done ever since that date.

Perhaps you may think it worth while to correct, or at all events to explain in any way you think it best, what I conceive to be misapprehensions in your last number on this subject. I am, Sir, faithfully yours,

Dublin, March, 1863. M.

*** Our attention has been called to this by several correspondents. The reference should have been to mixed Boards and Committees.—ED. L.

A Sufferer.—Diseases of the ear are proverbially obscure; and when the anatomy and enclosed condition of the organ of audition are remembered, this is scarcely to be wondered at.

Sisymbrium.—We are not aware of the agent alluded to by our correspondent having been recommended in hepatic diseases. Its fame has been that of an "anti-scorbutic."

MEDICAL ASSISTANTS.

To the Editor of THE LANCET.

SIR,—In your last week's number, "A Ten Years' Assistant" seems to think that medical men have a remedy to prevent the mistakes of their assistants, by a more liberal treatment, &c. How this can do so I am not yet quite so certain; for we all know the proverb of the tendency of the best of us to make a mistake.

The error referred to, as far as I recollect, was through the too close proximity of the powerful poison to the comparatively harmless preparation, and we have not yet been told whether the dispenser was at all unqualified for the post he filled, as seems to be hinted in your correspondent's letter. I still think that if he were competent, it was a great error not to let the case go on; for when a gentleman obtains as good an agent as it is possible to get in the ordinary course of things, what more can anyone do for security than that?

As far as treatment of assistants goes, I do not see how a man with anything but a lucrative practice can pay a great salary; and if he holds a union appointment, we all know from Mr. Grimm what sort of remuneration that is to allow of large salaries. If an employer is an inconsiderate person, leave him, and find some one who is not so; for good assistants can always command good engagements, whether legally qualified or not. I have been a few years in collar, and have found, as a general rule, when a man tries to do his duty it is appreciated. I am, Sir, yours truly,

Tenbury, March, 1863. ONE WHO WORKS AND GETS PAID FOR IT.

M. L. sends us the following queer epitaph, copied from a gravestone in the churchyard of Baton Rouge, Louisiana:—

"Here lies buried in the tomb
A constant sufferer from salt rheum,
Which finally in truth did pass
To spotted erysipelas.
A husband brave, a father true,
Here he lies, and so must you."

ERRATA.—In THE LANCET of last week, in Mr. Ernest Hart's paper "On the Extraction of Cataract," p. 368, col. 1, line 45, for "*presence* of a solid body in the eye," read "*pressure* of a solid body on the eye." Same page, 2nd col., line 5, for "chemical," read "clinical."

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Savory; Dr. Devenish; Dr. Pearse; Mr. J. D. Prytherch; Mr. Anderson, South Shields; Mr. Oliphant, Edinburgh, (with enclosure;) Mr. Megget, York, (with enclosure;) Mr. G. Cordon, Godalming, (with enclosure;) Mr. Lear, Bridgwater, (with enclosure;) Mr. Rhodes; Mr. Whishaw, Fyzabad; Mr. Ingram; Mr. C. Williams, Norwich; Mr. Carruthers, Kirkby; Messrs. Harvey and Reynolds, Leeds, (with enclosure;) Mr. R. Dallen; Mr. Smythe, Aberdeen, (with enclosure;) Mr. Staniland, St. George's, (with enclosure;) Dr. A. Meadows; Mr. Watson, (with enclosure;) Mr. E. Williams, Birmingham; Dr. Mackenzie; Mr. V. Laton, Manchester; Dr. Constable, Lochars; Mr. Leggett, Bastry, (with enclosure;) Mr. Lawton, Sheffield, (with enclosure;) Dr. Davidson, Edinburgh; Mr. Montgomery, (with enclosure;) Mr. Spence, Bedale, (with enclosure;) Mr. Curtis, (with enclosure;) Mr. J. Hodsoll, (with enclosure;) Dr. Fitz Henry, Liverpool; Dr. Allen, Lincoln, (with enclosure;) Mr. Stocks, (with enclosure;) Mr. Stutter, Wickhambreck, (with enclosure;) Mr. Pratt; Mr. Wordsworth; Mr. Stenning, Tonbridge; Dr. Thorogood; Dr. Graham, Epsom; Mr. Hicks, St. Davids, (with enclosure;) Mr. N. Kent, Gateshead; Dr. Foster; Mr. J. Philpotts, Blakeney, (with enclosure;) Mr. Somerville, Edinburgh; Dr. T. G.; Epidemiological Society; K. D., (with enclosure;) M.D. and L.R.C.P. Lond., West Indies; Royal College of Physicians; X. Y. Z.; One of the Ignorami; X. Y. Z., (with enclosure;) Ignoramus; A. B. C.; Alpha, (with enclosure;) an Army Surgeon; One who Works, and is Paid for it; Sisymbrium; Quidnunc; &c. &c.